CENTRO DE CALCULO
ELECTRONICO
CIUDAD UNIVERSITARIA,
MEXICO 20, D. F.

KEA file

original given to Dr Moore
for reply.
copies given to Stan + Gordon

January 6, 1964.

Mr. Harlan Anderson.
Digital Equipment Corp.
Maynard, Mass.

Dear Mr. Anderson:

In recent days we held in this Electronic Computing Center of the National University of Mexico the First International LISP Conference. Attending this Conference we had several of the most distinguished American scientists working in symbol manipulation, list processing and artificial intelligence languages, among them, Dr. John Mc Carthy, now at Stanford University.

Talking with Dr. Mc Carthy and showing him how difficult is for us to better the digital computers we have now, mainly due to financial problems, he recalled conversations with Mr. Ken Larsen, DEC's representative in that area and suggested my writing to you about the subject matter of those conversations.

According to the information Dr. Mc Carthy gave us, Digital Equipment Corp was interested in getting some group, preferently a university, which could undertake the writing of a FORTRAN compiler for your PDP-5. In exchange for that system DEC will give the university one of those PDP-5 computers.

Let me tell you some of our experience, activities and projects, in order to justify our herein expressed interest in establishing an arrangement of this type with DEC.

We installed in 1958 the first computer ever installed in Mexico. This was an IBM 650 and after 4 months the machine worked 210 hours per month. Since the second half of 1958 up to now, it works an average of 17 hours per day. In April 1962, the Bendix Computer Division (and later on, CDC), conceded us the free utilization of a G-15 with one magnetic tape. Under the agreement we would get an extra year of free utilization of that machine as long as at least one extra machine was sold or rented as a direct result of demonstration, courses or work done in the machine installed in our Computing Center.

The result of these installations for IBM, almost 50 more computers in 4 years, and for Bendix/C, the installation of 3 more G-15 and the first 106-A, in one year.

The reason for that, is that we are part of the largest university in the world (87,000 students and faculty of 12,000) very closely linked with all the economical, industrial and bussiness development of our country. We have offered every year courses on digital computer programming where an average of 1300 students get training in several levels of programming. Since this year, we will try to offer courses for 2500 students, as this is the estimated demand.

Thanks to a generous donation given by DEC through Ted Johnson, we got a small set of modules and we have offered the first courses in digital circuitry techniques. We also offer courses in Operations Research, Mathematical Linguistics, Information Retrieval and Analog computers.

We installed in late 1963 and RCA 354, (which in Mexico is marketed by the French company Bull) through a very attractive offer which implies more than a 60% of discount in the rental. It will probably be convenient to mention that Bull has received, from September 63 up to day, 4 more orders for RCA 301s or 354s.

We have built a LISP compiler for the RCA machine, will finish an IPL-V system next february and have under consideration writing a better and faster version of an ALGOL compiler for the same machine.

As you can see, we would profit very much (and our students and researchers also) from the installation of a fast, scientific digital computer. Even if our dream would be a PDP-6, we realize that wich something as Dls. 3,000.00 per month there is no way of getting it.

But we feel pretty sure we can undertake the writing of the FORTRAN compiler for the PDP-5 and would also like to have one installed at our Center. Naturally, you realize that at least one set of two magnetic tapes would probably be necessary if we want to develop a reasonably fast and complete compiling system.

In case maintenance considerations weight against this proposal, we would like to advance that we are ready to take charge of maintenance and that probably it will be suf-

CENTRO DE CA[illegible]O
ELECTRONIC[illegible]
CIUDAD UNIVERSI[illegible]A,
MEXICO 20, D. F.

ficient for you to send a technician for serious failures (if th present) and once every two or three months. We will cover, every case, all living expenses while in Mexico.

Besides the programming sy[illegible]m, you will get your equipment known in Mexico and you will be wonderful and certainly non-expensive position to evaluate the [illegible]al market and decide if it would be advisable to open an office do[illegible] here. Just to complete my information I will add that Rem Rand his installed 6 computers in two years, NCR has signed 3 or 4 in one year and Burroughs is moving now with at least two compu[illegible]'s signed in the last six months. Would not you consider that you[illegible] equipment deserve a share of this expanding matter and that an installation at our University will represent a sound starting point?

We will be very happy to discuss with a representative from DEC our proposal and to show you our projects, installations and plans.

Wishing you and all DEC associates a very happy 1964 I remain

Very truly yours,

ING. SERGIO F. BELTRAN,
Director.

SFB'rgm.

digital equipment corporation
MAYNARD, MASSACHUSETTS
TWinoaks 7-8822 TWX MAYN 816

January 7, 1964

Mr. Harlan E. Anderson, Vice President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Anderson:

Please consider this notice of a meeting of the Board of Directors of Digital Equipment Corporation, to be held at the offices of American Research and Development Corporation, 200 Berkeley Street, Boston, Massachusetts, on Tuesday, January 14, 1964, at 2:00 p.m.

sent 1/8/64

I shall appreciate your indicating on the enclosed copy whether or not you plan to attend the meeting, returning the copy to me.

Very truly yours,

Dorothy E. Rowe ah

Dorothy E. Rowe
Clerk

DER/ah
Enclosures

COPY FOR H Anderson

January 9, 1964

Mr. John McKenzie, Director
Massachusetts Bay Community College
27 Garrison Street
Boston, Massachusetts

Dear Mr. McKenzie:

Please permit me to extend heartfelt good wishes for 1964 and continued success for the Massachusetts Bay Community College. I read with interest and admiration the articles which appear in the newspapers about the progress the college has made since its first semester.

My work at Digital continues to be very stimulating although I never cease to be an educator at heart and luckily enough my duties include liaison with computer users, many of whom are engaged in scientific and educational research. An interesting paper was given at the DECUS (May, 1963) Meeting at Massachusetts Institute of Technology - "The PDP-1 as a Teaching Aid for Problem Solving". Stanford University, University of California, M.I.T., Harvard, Yale and the University of Michigan already are using our PDP-1 and other educational institutions are considering the use of the PDP. Because your plans for the new Massachusetts Bay Community College must include the best of everything, you might wish to consider a Programmed Data Processor as part of the new equipment. Training in digital computer techniques and applications could be begun at the sophomore level thus giving added importance to the Community College and equipping the terminal student with the knowledge which will enable him to qualify for the many openings in the electronic fields.

Digital Equipment Corporation has given courses to high school teachers and gives its users continuous programming assistance. The active users group also has many advantages because of its educational orientation. Incidentally, Digital gives generous discounts to educational institutions. It would be a pleasure to show you Digital's Computers and how they are built.

I am enclosing the 1962 DECUS PROCEEDINGS which will give you an idea of the breadth of the applications and versatility of the processor. The 1963 PROCEEDINGS are now being published. I will be very glad to send you a copy.

Sincerely,

Elsa Newman
DECUS Secretary

EN:ajc
Enclosure: DECUS PROCEEDINGS

H. E. Anderson

International Electric Corporation
P.O. BOX 285, PARAMUS, NEW JERSEY AREA CODE 201-COLFAX 2-6800

10 January 1964

S-WRH-1749

DIGITAL EQUIPMENT CORP.
Maynard,
Massachusetts

Attention: Mr. Ken Olsen, President

Subject: Invitation For Bid

Gentlemen:

International Electric Corporation hereby invites your company to submit a firm fixed price bid for the furnishing of computer equipment and services for a Central Computing Complex for National Aerospace to be developed by this corporation for the Federal Aviation Agency. A summary of the items upon which you should quote is as follows:

1. Hardware, as designated in Attachment A. Note there are three configurations and various alternative quantities within configurations. The equipment must meet RFI and Reliability requirements as designated in Attachment B.

2. Documentation, as designated in Attachment C. DEC will provide one (1) reproducible of each publication listed.

3. Programming, as designated in Attachment D.

4. Training of DISD personnel as defined in Attachment E.

5. Installation
   a) Installation criteria for preparation of field sites.
   b) All installation material and labor required for physical installation and checkout of equipment at field site.

6. Spares, which will be required during integration and testing of the equipment at Maynard, Mass.

7. Spares, which DEC will require during their installation and checkout of equipment at field site.

8. Spares, which DEC recommends be provided during first year of maintenance and operation. As a separate item, DEC should also furnish a list of recommended spares for the second year.

All items will be deliverable in accordance with Attachment F, SCHEDULE, and Attachment A Hardware.

It is requested that you submit with your bid a complete cost breakdown showing labor hours and rates, material costs, overhead, G & A, and profit.

Time is of the essence and strict compliance with the contract completion dates will be required.

In the event you require additional information relating to this Invitation and the enclosed Attachments, you should direct questions of a contractual nature to W.R. Hedman and questions of a technical nature to E.A. Force.

Your bid must be received by International Electric Corporation, Route #17, Paramus, New Jersey no later than 10:00 A.M. January 14, 1964. Telegraphic bids will be accepted.

Very truly yours,

INTERNATIONAL ELECTRIC CORPORATION

W.R. Hedman
Subcontract Manager

WRH:k
enc.

ATTACHMENT A

HARDWARE

1. First system will consist of either configuration A or B, or A and C or B and C.

2. Follow-on Production systems will be A or B, or C with a minimum of one system and a maximum of 28 systems and with fluctuating quantities of 1-8 for A, 1-16 for B, 1-12 for C.

	CONFIGURATIONS		
	C	B	A
	100 Flight Qty.	200 Flight Qty.	325 Flight Qty.
Type 166 Arithmetic Processing (with 16 word fast memory module 7 channel priority interrupt, word parity generation and check, and load from Tape Button) with Modification.	2	2	3
Core Memory Modules Type 163C (2 microsecond cycle, 16384 36-bit words)	3	6	12
Core Memory Interfaces (Extra)	3	6	24
Fast Memory Interfaces	2	2	6
Card Reader and Control Type 461 (800 cards/min)	1	1	1
Card Punch and Control Type 460 (100 cards/min)	1	1	1
Line Printer and Control Type 646 (300 LPM)	1	1	1
Paper Tape Punch and Control Type 761	2	2	3
Paper Tape Reader and Control Type 760	2	2	3
Printer Keyboard and Control Type 626	2	2	3
Magnetic Tape Control Type 516	2	2	2

	100 Flight	200 Flight	325 Flight
Data Control Type 136	2	2	2
Magnetic Tape Transport Type 570	8	8	8
Tape Switch Unit (see description	1	1	1
I/O Bus Switch Unit (see description	-	-	1
Real Time Clock (see description)	2	2	2
Sense Switch Unit (see description)	2	2	2
General purpose Magnetic Tape Unit Tester	1	1	1

Schedule for 1st system --See Pg. #3 Schedule #1 with the first month starting June 1st, 1964.

Schedule for follow-on production - See Pg. #3 Schedule #II with start date ranging from 0 to 18 months from June 1st, 1964.

DEC must also make available to DISD a scaled down version of the PDP-6 for Program debugging on December 1, 1964.

This equipment is to consist of the following:

1 (one) Processor
2 (two) Memory Modules
1 (one) Tape Control Unit with three (3) tapes
1 (one) Card Reader
1 (one) Card Punch
1 (one) Teleprinter
1 (one) Paper Tape Reader
1 (one) Paper Tape Punch

Description

I/O Bus Switch Device

1. Addressable as a device on an I/O Bus

2. A CONO instruction to this device by its bit configuration determines the I/O Bus of the system that is connected to the controlling processor. Each of the following actions is controlled by a separate bit in the CONO instruction:

    a) Disconnect the I/O Bus of the Controlling Arithmetic Processor from the processor itself.
    b) Connect the controlling arithmetic Processor to the I/O Bus of a second processor.
    c) Connect the controlling Arithmetic Processor to the I/O Bus of a third processor.
    d) Connect the controlling Arithmetic Processor to the I/O Bus of a fourth processor.
    e) Disconnect the I/O Bus of a second Arithmetic Processor from its processor.
    f) Disconnect the I/O Bus of a third Arithmetic Processor from its processor.
    g) Disconnect the I/O Bus of a fourth Arithmetic Processor from its processor.

3. All parts of "2" are to be included in design of the I/O Bus Switch but parts 2(d) and 2(g) are not to be implemented in hardware except as they are needed to make the field addition of the fourth Processor a plug-in adaptation.

4. Any power failure or single component failure in the I/O Bus Switch cause the I/O Buses to be connected only to their own processors.

Tape Switch Unit

1. Addressable as a device from two different I/O Buses.
2. Provides relay switching among two Tape Controls and eight Tape Units.
3. A CONO instruction to this device from either I/O Bus determines which of the eight Tape Units are to be connected to each Tape Control Unit.
4. A single failure in the Tape Switch Unit will not affect Tape Unit switching beyond one of the following:
    a) A single Tape Unit may be denied access to both Tape Control Units
    b) A single Tape Control Unit may be denied access to all Tape Units.

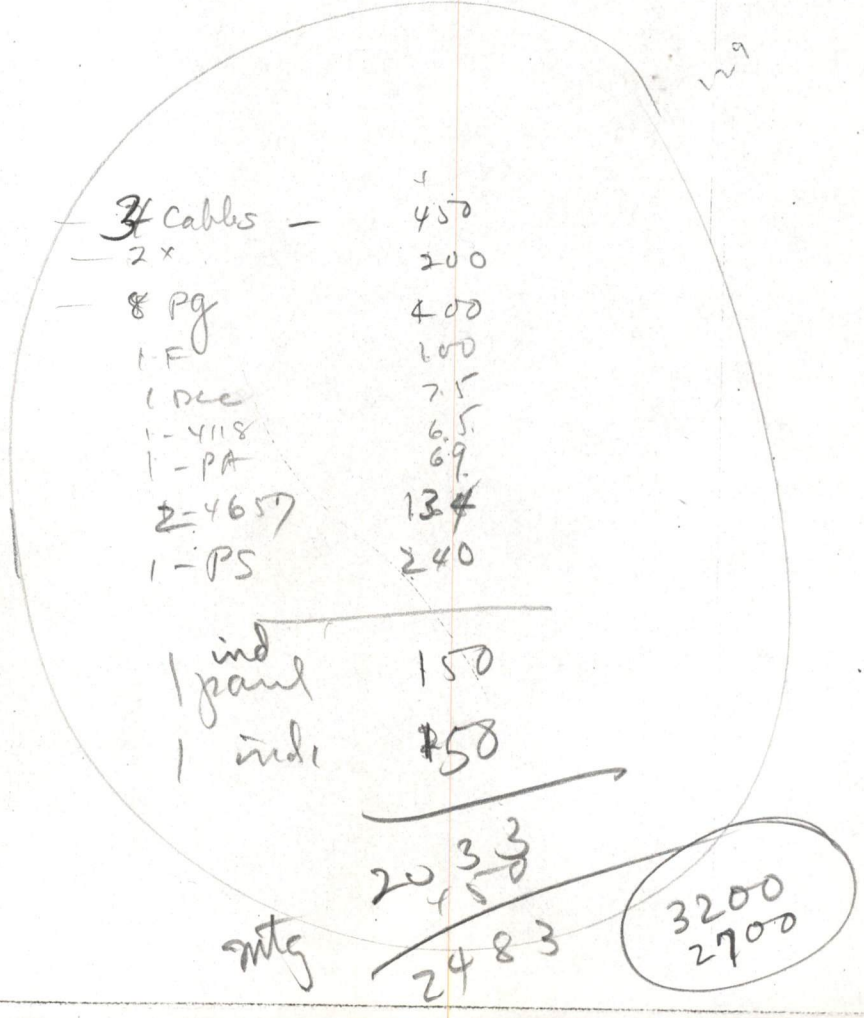
Real Time Clock

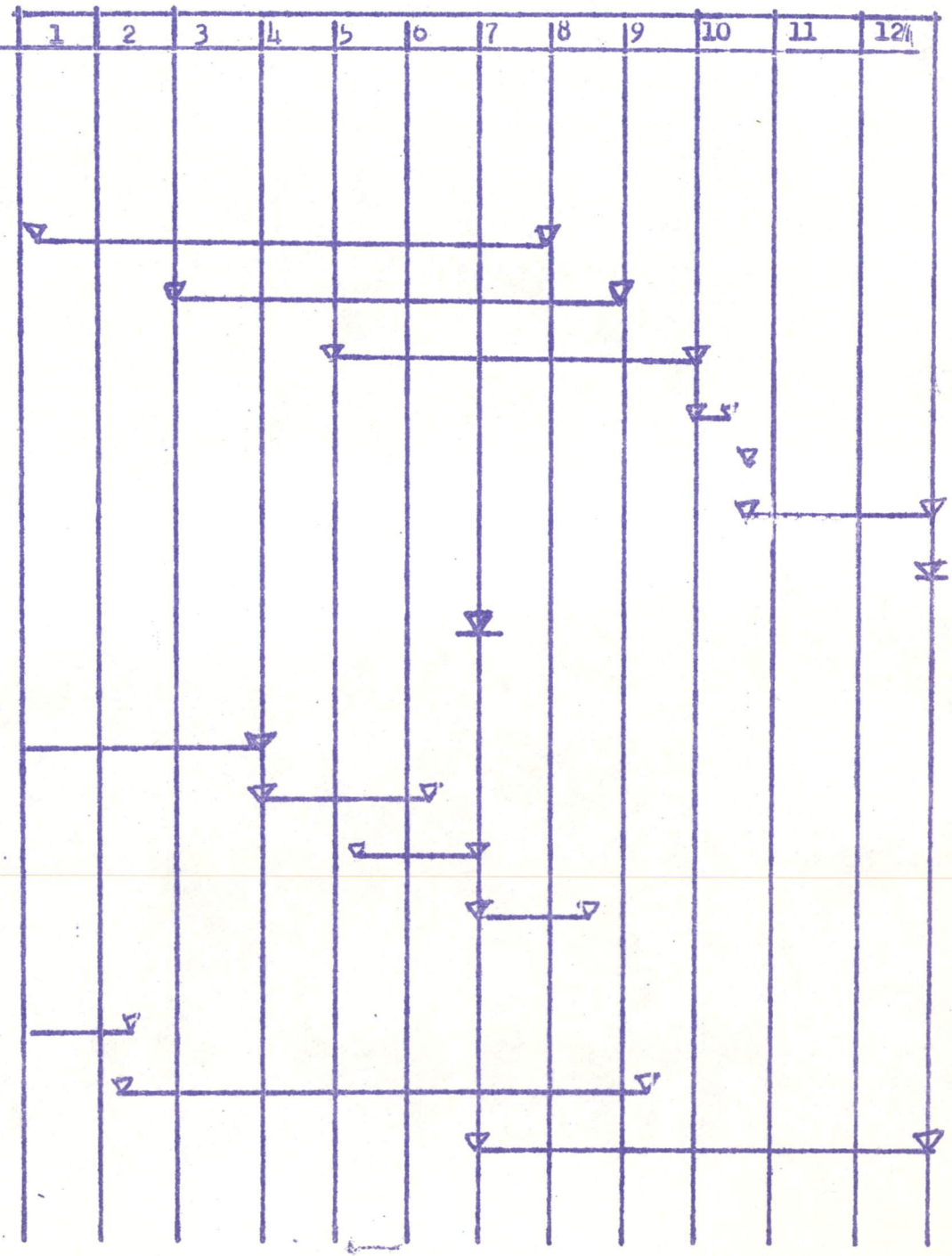
1. Addressable as a device on an I/O Bus
2. 18 bit counter gives time
3. 100 microsecond resolution
4. Stability .01% between -20° and $+55^{\circ}$ C.
5. Interrupt channel assigned by CONO instruction in usual manner

6. Clock stopped by CONO instruction
7. Clock started by CONO instruction
8. Clock read-out by DATAI instruction with low order 18 bits of Data Word giving time.
9. Clock set by DATAO instructions with low order 18 bits of data word giving time setting and a high order bit indicating that time is to be set.
10. Clock reset by DATAO instruction with low order 18 bits of data word =O and a high order bit indicating that time is to be set.
11. Clock set to interrupt at zero count with CONO instructions.
12. Clock set to interrupt at one other pre-wired count by CONO instruction.

Sense Switch Unit

1. Unit contains eight pushbutton indicators.
2. Unit is addressable as a device on I/O Bus.
3. Maximum of two units supplied with each FAA configuration.
4. An indicator is illuminated when operator presses that button on unit. Corresponding bit of Control Register of Device on I/O Bus is set to ONE.
5. An indicator is extinguished when operator presses that button on unit. Corresponding bit of Control Register of Device on I/O Bus is set to ZERO.
6. An indicator is lit when CONO instruction to that device is issued with corresponding bit in Control Register set to ONE.
7. An indicator is extinguished when CONO instruction to that device is issued with corresponding bit in Control Register set to ZERO.





* Delete these items

Warman

Dow

ATTACHMENT B

RFI AND RELIABILITY

RELIABILITY

The MUT (Mean-Up-Time) shall be defined as the mean times between element failures, minus the MDT (Mean-Down-Time).

The MDT is the mean of times required to repair/replace a failed element and bring the system back to full operating capability.

The MUT shall not be less than that specified below:

Equipment	MUT
Arithmetic Processor (Including Power Supply and Fast Memory)	240 Hours
Core Memory Modules (Including Power Supply)	650 Hours
Magnetic Tape Control Unit	1,500 Hours
Data Control	1,500 Hours
Magnetic Tape Transport	500 Hours
Tape Switch Unit	1,200 Hours
I/O Bus Switch Unit	To be supplied
Real Time Clock	To be supplied
Sense Switch Unit	To be supplied

The Mean-Down-Time shall not exceed one half hour for all equiptments listed above.

no guarantee of this!

RFI

The equipment shall satisfy the limits of transfers and susceptibility as specified in Paragraphs 4.3.2, 4.3.4.1.1, 4.3.4.1.2, 4.3.4.2 of MIL-I-26600 (USAF) and Amendment 2 thereto. These tests shall be conducted assuming the equipment meets Class II requirements.

Warman

Bob Beckman

ATTACHMENT C

DOCUMENTATION

The following documentations shall be supplied in the quantities and deliveries as listed in Attachment F. The delivery dates listed are counted from date of award of contract.

A. Assembler Reference Manual

B. Assembler Operators Manual

C. Assembler Specification

D. Programmers Reference Manual

E. Off-Line and On-Line Maintenance Program Documentation, including Program Specifications, Flow Charts and Listings.

F. DEC In-Plant Test Specifications and Test Reports

G. All drawings, including installation and technical memos required for the design, test and manufacture of the equipment.

H. All documentation required for installation

I. Instruction and maintenance manuals including maintenance schedules and logical and timing diagrams, schematic diagrams, parts lists, etc.

Warman

ATTACHMENT D

PROGRAMMING

The following programs are to be supplied in the form of IBM Decks. Also to be supplied are Programming Specifications, Flow Charts and Program Listings. The delivery dates for these programs listed in Attachment F are counted from the date of award of the contract.

A. Break Point and Dump

B. Off-Line Maintenance

C. MACRO Assembler

D. Monitor

E. Core Dump and Loader

F. Flow Trace

~~G. Loader Program~~

~~H. On-Line Maintenance~~

Waxman

ATTACHMENT E

TRAINING

DEC shall train at least six people to be supplied by DISD. This training shall be both classroom and equipment oriented and shall be completed in six weeks. The training shall be directed towards the operation and maintenance of the equipment. Upon completion of the course DEC shall supply ten copies of the training manual used in the course.

Training shall also be available for customer personnel supplied by DISD.

Warman

ATTACHMENT F

DELIVERY SCHEDULES

	DOCUMENT	QUANTITY	DEC	DELIVERY DATE
A.	Assembler Reference Manual	200	2 wks	One Month OK
B.	Assembler Operators Manual	200	2 wks	Six Months
C.	Assembler Specification	200	2 wk	Six Months
D.	Programmers Reference Manual	200	2 wk	One Month
E.	Off-Line Maintenance Programming Documentation	6 sets		Six Months
F.	DEC In-Plant Test Specification and Test Reports	3 sets		Three Months
G.	All Drawings	*		Six Months
G.+	Index of drawings			Six Months
H.	Installation Documentation	3 sets		Three Months
I.	Instruction Maintenance Manuals	3 + 1 repro.		Six Months
J.	Break Point and Dump Program	1 set		Six Months
K.	Off-Line Maintenance Program	1 set		Six Months
L.	MACRO Assembler Program	1 set		Six Months
M.	Monitor Program	1 set		Six Months
N.	Core Dump and Loader Program	1 set		Six Months
O.	Flow Trace Program	1 set		Six Months
P.	Loader Program	1 set		Six Months
Q.	On-Line Maintenance Program	1 set		Six Months

* To be supplied

COPY FOR H. Anderson

DECUS

DIGITAL EQUIPMENT COMPUTER USERS SOCIETY
MAYNARD, MASSACHUSETTS / TWinoaks 7-8822 / TWX MAYN 816

January 16, 1964

Mr. Byron Cole
Fischer & Porter Company
Warminster, Pennsylvania

Dear Mr. Cole:

It gives me great pleasure to send you the January issue of DECUSCOPE which is the official technical bulletin of Digital Equipment Computer Users Society (DECUS). You will note that on January 21, 1964, we are having a PDP-4 Symposium at the Foxboro Company in Natick. We wish to invite you and your representatives to attend. It is our first Symposium for PDP-4 users and promises to be an interesting one.

You may contact Mr. McAvinn, the Meetings Chairman, at Foxboro or me for further details. We look forward to meeting you.

Sincerely,

Elsa Newman (Mrs.)
DECUS Secretary

EN:ajc

Enclosures: January DECUSCOPE
DECUS Bylaws

cc: George Rice
Harlan Anderson

digital equipment corporation
MAYNARD, MASSACHUSETTS
TWinoaks 7-8822 TWX MAYN 816

January 20, 1964

Mr. Harlan E. Anderson, Vice President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Anderson:

Please consider this notice of a meeting of the Board of Directors of Digital Equipment Corporation, to be held at the offices of American Research and Development Corporation, 200 Berkeley Street, Boston, Massachusetts, on Tuesday, February 11, 1964, at 2:00 p.m.

I shall appreciate your indicating on the enclosed copy whether or not you plan to attend the meeting, returning the copy to me.

Very truly yours,

Dorothy

Dorothy E. Rowe
Clerk

DER/ah
Enclosures

rec'd yes 1/21 ah

LEARNING RESEARCH AND DEVELOPMENT CENTER
UNIVERSITY OF PITTSBURGH • PITTSBURGH • PENNSYLVANIA 15213
MAIN OFFICE: 302 AMOS HALL • PHONE 621-3500 EXT. 7226-7227
LABORATORIES: UPPER CAMPUS • PHONE 683-1620 EXT. 2422-23-24

January 20, 1964

Mr. H. Anderson
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Anderson:

This letter will confirm our telephone conversation of January 17 concerning our intentions of visiting the Boston area on February 7 and our interest in talking with you about some of your equipment. In particular we are interested in display techniques and devices and in the specifications of your new computer the PDP VI.

We appreciate the opportunity of talking with you and I shall call you during the morning of the seventh to establish the exact time of our arrival at your plant.

Sincerely yours,

William W. Ramage

William W. Ramage
Project Associate for Engineering
Learning Research and Development Center

WWR:rar

17 Oakwood Road
South Acton, Massachusetts
20 January 1964

Mr. Harlan Anderson
Vice President
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Mr. Anderson:

Thank you for taking time out from your busy schedule to talk with me.

I am very much impressed with the wonderful opportunities available with your firm. I am pleased that the career goals of your Mr. Ridgeway and mine are almost identical. I know I can make a significant contribution to your firm.

I am looking forward to seeing you again.

Very truly yours,

Milton Dwonczyk

Milton Dwonczyk

APPLIED DYNAMICS INTERNATIONAL
a division of APPLIED DYNAMICS, INC. • 2275 Platt Road • Ann Arbor, Michigan 48104 • Tel. 313-665-3601 • Cable COMPUTERS • TWX 313-665-6082

January 22, 1964

Reference. JDK #247

Mrs. N. Survilas
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mrs. Survilas:

Thank you for your letter of December 26th and the 12 copies of the PDP-5 Manual (F-55) and the address of your Munich office. Please extend my best regards to Mr. Anderson upon his return from Australia.

Sincerely,

J. D. Kennedy
President

JDK:cn

H. Anderson

DAVID BAER COTTON
26 JOHN STREET
BROOKLINE 46, MASSACHUSETTS

January 23, 1964

Mr. Stefan S. Mikulski
Customer Relations
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Mr. Mikulski:

On behalf of Mr. Borg, the Brookline High School students, and myself I would like to thank you and the Digital Equipment Corporation for your hospitality last Thursday.

From the reactions of the students on the ride home, I know that their visit will be an experience they will long remember. It has been my desire to encourage them to investigate careers in the computing field, and I think that trips like this are an indispensable aid.

Again thank you for your hospitality and your time.

Sincerely,

David Baer Cotton

DBC:jm

H. Andersson

KUNGL STATSKONTORET
Laborator Per Svenonius

Digital Equipment Corporation
Marie St
Maynard, Mass.
U S A

Jan 25. 1964

Dear Sirs,

1. Enclosed you will find a bfief account of the computer demands for research and education on university level in Swdden. We suppose you may want to draw our attention to computers that are manufactured by your company and that meet the essential requirements. You may even want to propose modifications to the sketched program due to circumstances, the importance of which you feel may have been overlooked.

2. You are hereby invited to propose hard-ware equipment for the sketched program. The proposal shall only cover what you regard as the most convenient hard-ware solutions for normal university applications within the limits given by the memorandum. If the requirements are not fully met, the deviations shall be specified. Monthly rentals, purchase prices and monthly maintenance charges should be stated. Each computer will be ordered individually without any commitments regarding the others. Your proposal shall therefore be applicable to individual orders.

3. One or two computers of type B will probably be put on order in June 1964 for delivery 12 to 18 months later. In order to make this possible we must call for your cooperation in the following respects.

   3 1. Preliminary proposals in the meaning of p. 2 are asked for earlier than Feb 26th, 1964. Final proposals are requested before May 15th, 1964.

   3 2. We are interested to visit related computer installations in Europe and the United States to study the importance of computers for research at university level and to study efficient ways of training people for computer-oriented work. Topics of interest are: administration of computer centers at universities, computer configuration and software, advanced research applications, non-standard computer use at real time applications, education of programmers, etc. As soon as possible we should therefore like to get

      3 2 1. information about computer installations in Europe that you feel we should visit - and why;

3 2 2. suggestions regarding selected installations in the United States that we should visit if time allows - (and why) - in connection with a four week trip in March and the first part of April.

3 3. We also count upon your assistance in arranging some visits - in Europe and the United States - assuming that we later can draft a schedule for our travel. We are of course unable to specify any details until we get your suggestions regarding visits that should be of importance to us.

4. It would probably be convenient for you to meet with some representative(s) of the Statskontoret to discuss details that may need mutual clarification before a final and well-defined proposal in the meaning of p. 2 can be given. Our schedule is supposed to cover such needs. If time allows, the director general of the Statskontoret will take part in some of these discussions. He will e.g. join the travelling group in the United States at the end of March.

5. All mail on this matter shall be sent under the address given below.

Per Svenonius

Address: Dr Per Svenonius
FOA 4
STOCKHOLM 80
Sweden.

PS/SI

MEMORANDUM ON COMPUTER DEMANDS FOR RESEARCH AND EDUCATION ON UNIVERSITY LEVEL IN SWEDEN.

Introductory information

A number of computers may be installed in Sweden within a few years for research and education on university level. No decisions are yet taken, but one or two computers will probably be ordered shortly. Presumably the total requirements will turn out to be one very advanced computer (computer type A), some four or five medium-size scientific computers (computer type B) and peripheral equipment. Some satellite type computers may also be required primarily for preprocessing at distant institutes with pronounced computer demands. Direct data communication to the closest larger computer may also be considered in these cases.

The computers will be used primarily for research and education, but other governmental interests may become involved in order to make efficient use of installed computer capacity.

Computer characteristics

The following characteristics are regarded typical for the different computer types.

Computer type A.

Programming languages: the manufacturer is supposed to maintain reasonably accurate compilers for ALGOL and FORTRAN programming.

Monitor system: the manufacturer is supposed to furnish a monitor system for continuous operation of the central computer, direct loading and storing of incoming jobs, automatic output of completed jobs, and automatic selection of next job according to some priority algorithm.

Arithmetic: automatic floating point arithmetic is required.

Internal speed: a fixed point add operation at full word length shall under normal conditions be completed in approx 1 microsecond or less.

Word length: minimum 48 bits per word.

Memory size: minimum requirements for efficient use of a computer with the specified characteristics (might e.g. turn out to be 65K core, a large random access memory and some few magnetic tape units). Under calculation the programmer shall have at least 40K core space and some magnetic tapes (or equivalent) available for data and own parts of program.

I/O characteristics: I/O capacity shall match I/O conditions that can be regarded reasonable for full use of the internal computer capacity for scientific applications at a service bureau with a large number of customers.

Further characteristics: interrupt for real time applications is required.

Computer type B.

Programming languages: the manufacturer is supposed to maintain reasonably accurate compilers for ALGOL and FORTRAN programming. A COBOL compiler may also be required.

Monitor system: the manufacturer is supposed to furnish a monitor system that facilitates efficient use of the central computer.

Arithmetic: automatic floating point arithmetic is required.

* Internal speed: a fixed point add operation at full word length shall under normal conditions be completed in
a) approx 10 microseconds or less
b) approx 4 microseconds or less

* Word length:
1) minimum 48 bits per word
2) minimum 36 bits per word

Memory size: minimum requirements for efficient use of the computer in question. Under calculation the programmer shall have some 20K core space and some magnetic tapes (or equivalent) available for data and own parts of program.

I/O characteristics: if all I/O operations are performed on-line, I/O capacity shall match the conditions that can be regarded reasonable for full use of the internal computer capacity for scientific applications at a service bureau with a fairly large number of customers.
If I/O operations essentially are performed at satellites, the satellite capacity shall meet the requirements at full use of the main computer.

Further characteristics: interrupt for real time applications will probably be required.

Possible later changes: if at all needed, by what modifications in hard-ware can the computer be kept in non-stop operation? By what further modifications in hard-ware can the total turn-around-time for short runs be cut down to some ten minutes, assuming that the computer speed is sufficient to match the incoming rate of short jobs?

*Manufacturers are of course only supposed to cover those alternatives, to which their production naturally applies. Decision regarding the minimum word length will be taken later. B-type computers of two different speeds will probably be installed.

Satellite type computer

The remote use of satellite type computers is primarily intended for preprocessing of programs that will be run on a computer of type A or B at a later stage. The satellite type computer shall therefore be furnished with ALGOL and FORTRAN preprocessors and with (limited) ALGOL and FORTRAN compilers.

Wanted information.

Technical specifications for computers, that satisfy the general characteristics. Number of installed computers of specified kind. Number of computers on order. Capacity of maintenance organization assigned to Sweden. Purchase prizes, maintenance charges, monthly rentals etc.

cc Kenneth Olsen

February 3, 1964

Mr. Thomas Marx
Sigma Instruments Company
170 Pearl Street
South Braintree
Massachusetts

COPY

Dear Mr. Marx:

As per our phone conversation this morning, we are happy to send you the following information.

The 16 Column High Speed Printer, which we discussed, can be provided as an option to the system for approximately $20,000. It will give you the capability of performing your high speed data logging in 1 to 2 seconds per relay without a serious infringement on the 5 second restriction placed on the total testing time. The printer will have the following general specifications:

Printing Rate	10 to 20 lines per second
Column Capacity	16, Printable Characters per column, 54, and in alphanumeric arrangement
Character Pitch	10 characters per inch
Paper Roll	2¼ inches wide, which makes for easy handling when data is sent along with the relay.

The pricing which we discussed over the phone can be broken down in Fixed Costs and Special Costs.

Fixed Costs

PDP-5 Computer with 4K of memory	$27,000
Test system logic and interface	$52,000

Special Costs

Engineering, programming, testing special power supplies, installation	$41,000
Approximate Total	$120,000

Please feel free to call us, if we can be of any assistance to you.

Very truly yours,

DIGITAL EQUIPMENT CORPORATION

Kenneth L. Wakeen
Manager, Production Engineering

KLW:mc

CC: Sigma Instruments Company

Mr. Harold Adkins
Mr. Lewis LaFame
Miss Virginia Hudson
Mr. Robert Pierce
Mr. Fred Blatz

Digital Equipment Corporation

Mr. Kenneth Olsen
Mr. Stanley Olsen
Mr. Nick Mazzarese
Mr. Fred Gould
Mr. Pat Greene

BEAR, STEARNS & CO.
MEMBERS NEW YORK STOCK EXCHANGE
ONE WALL STREET
NEW YORK 5, N.Y.

February 6, 1964.

Mel Gardner was told by telephone that we are not interested on March 6. H.E.A.

PERSONAL & CONFIDENTIAL

Mr. Harlan E. Anderson
Vice President
Digital Equipment Corp.
Maynard, Mass.

Dear Harlan:

I imagine that by now you have returned from your trip to Australia, and I hope that it was a very successful one.

During the week after our visit with you, I called Ken and Miss Rowe to tell them that George Ryan had decided to accept the proposal about which I told you. Naturally, I was very disappointed, but George felt that the time element and the certainty of this deal were of great importance. He did not want to take the risk of not being able to arrange an acquisition by you after your investigation. The other merger is in the process of being consummated, but there are some problems. It just may be that I will be able to come back to you with Benson-Lehner, which I would very much like to be able to do.

I would like to suggest another possibility for you. It is Moore Associates, a Company in California in which we have an investment position. It is headed by an old friend of mine from M.I.T., and I am a member of the Board. It is not doing as well as any one of us would like. Sales last year were about $650,000, and the Company lost money. Some engineered jobs were not properly estimated, and the organization was geared up to do a substantially larger volume than it did.

It seems to me that Moore has a very close product relationship with your activities, and I would appreciate it if you would give it consideration as an acquisition. I am enclosing product literature which pretty well describes the Company's capabilities, and I can supply you with any additional information that you might want on the Company.

sent to purchasing

I hope you will visit us soon here in New York. My very best regards.

Sincerely,

Melvin J. Gardner

MJG:mj
Encl.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
LINCOLN LABORATORY
LEXINGTON 73, MASSACHUSETTS

6 February 1964

VOlunteer 2-3370

Mr. Harlan Anderson
Digital Equipment Corporation
Main Street
Maynard, Massachusetts

Dear Mr. Anderson:

On 3 February the Type 510 Magnetic Tape Control was returned to the Laboratory by Digital Equipment. As you recall from our previous conversation, our experience with this equipment has been less than satisfactory. Consequently, it is desirable for us to state our understanding of the terms under which we have accepted this latest delivery of the Type 510.

Of course we shall make every effort to check out this equipment as expeditiously as possible; however, several important commitments preclude this checkout being given our first priority. Mr. Schafer will give this work as much of his time as possible, but because of other demands checkout of the 510 will come second. When, as a result of Mr. Schafer's work on the Type 510, it may be necessary to ask your engineers to correct errors in the equipment, this work will have to be done outside of regular working hours because of the high demand for the use of the PDP-1. These procedures for the checkout of the Type 510 have been discussed generally with Mr. Shields, and I hope they seem reasonable to you under the circumstances.

Considering the extensive checkout made on the Type 510 by Mr. Shields and his people in the last few weeks, we hope we shall be able to accept the equipment fairly soon.

Very truly yours,

Walter I. Wells

WIW/JS/bq

cc: J. Salerno
B. J. Schafer

HEA

IBM

original signed
to D. Mills

International Business Machines Corporation

Command Control Center
Federal Systems Division
Neighborhood Road
Kingston, New York 12401

Telephone: 383-0123 (Area Code 914

February 7, 1964

Digital Equipment Corporation
Maynard, Massachusetts

Attention: Mr. Harlan E. Anderson,
Vice-President

Subject: PDP-1 Maintenance Data

Dear Sir:

Reference is made to the DEC-IBM Information Disclosure Agreement signed by you on December 23, 1963, which provides for IBM access to data required to maintain the PDP-1 that is interconnected with the AN/FSQ-32 (XD-1A), installed at the System Development Corporation, Santa Monica.

We appreciate your assistance and cooperation, and that of your Patent Counsel, Mr. Robert Cesari, in arriving at this agreement.

The data required for maintenance of the PDP-1 has been received from SDC. For your records, we are enclosing a listing of the PDP-1 drawings with which we have been provided. Unless otherwise directed, this data shall be returned to SDC upon expiration or termination of the agreement, or upon completion of SDC's subcontract to IBM which requires its use, whichever first occurs.

If you should desire further information or if I may be of any other service to you, please do not hesitate to call upon me.

Very truly yours,

A G Currie

A. G. Currie, Manager
Kingston Laboratory Contracts

AGC/km

Enclosure

cc: Mr. Robert Cesari
Blair and Buckles
79 Milk Street
Boston, Massachusetts

	DRAWING NUMBER	NAME	DATE OF LAST CHANGE
1.	D-31905	GENERAL CONTROL FUNCTION	2-6-63
2.	D-31956	AUTOMATIC MULTIPLY DIVIDE TYPE 10	2-12-63
3.	D-31909	INSTRUCTION REGISTER & DECODERS	6-6-62
4.	D-31908	SH/RO LOGIC PROGRAM FLAG & COUNT LOGIC	5-4-62
5.	D-31957	PROGRAM COUNTER	NONE
6.	D-31904	AC CONTROL	7-10-63
7.	D-31923 (1)	ACCUMULATOR	5-4-62
8.	D-31923 (2)	ACCUMULATOR	11-21-62
9.	D-31926	IOT GENERATION	
10.	D-31907	MA PC MB & IO PULSE CONTROL	7-13-62
11.	D-31925	ACC MIXER	
12.	D-31906	MEMORY ADDRESS REGISTER & DECODERS	4-12-62
13.	D-31958	MEMORY BUFFER REGISTER	3-1-62
14.	D-31959	MEMORY SYSTEM TYPE 12	11-21-62
15.	D-31960	IO REGISTER	5-14-62
16.	D-31927	IO MIXER	
17.	D-31961	LOGIC FOR TELETYPE BRPE PUNCH	10-11-61
18.	D-31924	IO MIXER EXTENDED	
19.	D-31962	READER BUFFERS & CONTROL	1-10-63
20.	D-31921	TYPEWRITER CONTROL #0	9-7-62

	DRAWING NUMBER	NAME	DATE OF LAST CHANGE
17.	D-31943	3Y	
18.	E-31955	3A, 3B, 3C, 3D	
19.	D-31915	3H, 3J, 3K	
20.	D-31918	3L	
21.	D-31933	4Z, 4A, 4B	
22.	D-31932	4C	
23.	D-31975	R1Y, R1Z	
1.	D-31979	COMPUTER LOGIC LAYOUT	
2.	D-31980	REAR VIEW LAYOUT	
3.	D-31981	TAPER PIN PANELS & IN OUT PLUGS FOR OPTIONAL EQUIPMENT	
4.	D-31972	LAYOUT OF FRAME 4	
5.	D-31974	LAYOUT OF STANDARD SYSTEM MODULE	

TELETYPE INTERFACE UNIT

1.	RS-4703-1	TELETYPE TRANSMITTER 4703
2.	RS-4702-1	TELETYPE INCOMING LINE UNIT 4702
3.	D-32403	TELETYPE RECEIVER MIXER TELETYPE TRANSMITTER

	DRAWING NUMBER	NAME	DATE OF LAST CHANGE
21.	D-31920	TYPEWRITER CONTROL #1	
22.	D-31919	TYPEWRITER CONTROL #2	
23.	D-31935	MEM BUFFER MIXER MEMORY EXTENSION CONTROL TYPE 15	5-14-62
24.	D-31963	MAD & MB BUFFERS MEM EXTENSION	
25.	D-31936	FIELD TRANSFER LOGIC & FIELD SELECTION TYPE 15	5-15-62
26.	D-31964	HSC MIXER	NONE
27.	D-31965	MA & FIELDS INPUT MIXER	7-6-62
28.	D-31937	HIGH SPEED CHANNEL CONTROL TYPE 19	5-14-62
29.	D-31922	COMPLETION PULSE TRAPS	7-5-62
30.	D-31949	256 SEQUENCE BREAK SYSTEM TAPER PIN PATCH PANEL	8-14-62
31.	D-31966	BREAK SYSTEM CONTROL	10-11-62
32.	D-31967	SELECTION FOR 256 PULSES	NONE
33.	D-31968	BREAK SYSTEM PRIORITY CHAIN	4-11-62
34.	D-31938	CONTROL FOR 256 PULSES	NONE
35.	D-31969 (1)	CHANNEL REGISTER & PRIORITY CHAIN 00 TO 07	4-11-62
36.	D-31969 (2)	CHANNEL REGISTER & PRIORITY CHAIN 00 TO 07	4-12-62
37.	SD-31944	DATA TO Q-32	
38.	SD-31945	DATA FROM Q-32	
39.	SD-31946	TIMING CHAIN & DECODING	
40.	SD-31947	Q-32 ADDRESS SELECTION	

	DRAWING NUMBER	NAME	DATE OF LAST CHANGE
41.	SD-31948	DATA SEND & RECEIVE CONTROL	
42.	C-31970	MULTIPLY & DIVIDE FLOW DIAGRAM	
43.	D-31971	CYCLE O FLOW DIAGRAM	
44.	D-31973	SPECIAL CYCLES FLOW DIAGRAM	
45.	D-31903	CYCLE ONE FLOW DIAGRAM	

RACKS

1.	D-31914	11A, 11B, 11C
2.	D-31978	OY, OZ, OA
3.	D-31951	OB, OC
4.	D-31976	OD
5.	D-31939	OE, OF
6.	D-31977	OH, OJ, OK
7.	D-31940	1Y, 1Z
8.	D-31912	1A, 1B, 1C
9.	D-31910	1D, 1E, 1F
10.	D-31941	1H, 1J, 1K
11.	D-31956	1L
12.	D-31942	2Y, 2Z
13.	D-31911	2A, 2B, 2C
14.	D-31917	2D, 2E
15.	D-31916	2F, 2H, 2J
16.	D-31954	2K, 2L

HEA

LEARNING RESEARCH AND DEVELOPMENT CENTER
UNIVERSITY OF PITTSBURGH · PITTSBURGH · PENNSYLVANIA 15213
MAIN OFFICE: 302 AMOS HALL · PHONE 621-3500 EXT. 7226-7227
LABORATORIES: UPPER CAMPUS · PHONE 683-1620 EXT. 2422-23-24

February 11, 1964

Mr. H. Anderson
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Anderson

I want to thank you on behalf of the group from the Learning Research and Development Center for the interesting discussion we had with you last week. We feel that the time spent was most worthwhile and very informative. We appreciate your time and consideration and if we uncover further information in which we believe you are interested, we will certainly pass it on.

The project for which we made this trip should be producing a final report in two or three months and if you are interested, we will be happy to send you a copy.

Sincerely,

William W. Ramage

William W. Ramage
Project Associate for Engineering
Learning Research and Development Center

WWR:rar

c.c. John Fadiman

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

15 TOOLANG ROAD, TURRAMURRA NORTH, N.S.W.

12th February, 1964.

Mr. Harlan E. Anderson,
Vice President,
Digital Equipment Corporation,
MAYNARD. MASS,
U.S.A.

Dear Andy,

Nothing new to report on the Universities just now, except that I talked briefly to Dr. Robson on Monday without getting any feedback. A copy of your letter to him arrived here today.

I badly need technical literature on the smaller computers and the modules, as I have nothing to hand out or from which to make up proposals.

I need immediate advice about machine and software delivery dates. The last letter enquired about PDP-4 delivery, and now there is an impatient but very good prospect for a 4096 word PDP-5 with 200 cpm reader and extra teletype. I estimate the price at about $48,000. He has a friend who is also likely to want one (market and advertising media research people). Could you please advise urgently on the delivery of this configuration, delivery of software, maintenance percentage applicable (3%?), importation charges, power consumption, floor loadings. Don't forget the conversion of power supplies to 240 volts 50 cycles. Could we have a backup machine in our offices until another customer could provide backup?

I'm looking forward to starting officially on Monday next, and plan a grand tour of the Universities first thing. When is John Fadiman coming out? It is important that we establish a proper office quickly to add substance to our University proposals.

Very best wishes,

per James Dick

R. G. SMART,
General Manager.

RGS.JD

SPECIFICATION FOR THE HIRE OF A
DIGITAL COMPUTER

1. DETAILS OF TENDER

Tenderers must include adequate technical information to enable an accurate assessment of the equipment to be made.

2. PERFORMANCE STANDARDS

The Tenderer is to demonstrate to the satisfaction of the accepting officer that the equipment performs to the standards specified in the tender. Any work declared necessary shall be performed at the expense of the Tenderer.

3. GENERAL

A small digital computer with high speed in fixed point arithmetic is required for lease to the Aeronautical Research Laboratories for use in hybrid analogue-digital simulation, on-line data processing and general scientific computations. The computer is required to be delivered on or before 1st July 1964 and the period of Hire is to be for 12 months from this date.

Only firms with full programming and maintenance support available in Melbourne, Australia will be considered.

4. ADVANCE OPERATING INFORMATION

The successful Tenderer is to supply two full sets of operating and technical manuals and other relevant information together with ten sets of programming manuals within one calendar month of tender acceptance.

The Tenderer is to state what courses of instruction in computer operation and programming (in particular with regard to the use of the algebraic compiler) he will provide both before and after the installation of the computer system.

5. CENTRAL PROCESSOR

(a) Arithmetic Speeds

The central processor must be capable of high speed in fixed point operation. Speeds of the order of 15 microseconds for fixed point addition and 250 microseconds for fixed point multiplication are required.

(b) Machine Organisation

There should be provision either in the form of

...2/..

hardware or by library programme for floating point operation and full details of the system used must be provided.

The Department will favour high speed of operation particularly for the single precision fixed point operations. Details of basic word length and multiple length working must be given.

(c) Storage Capacity

A store capacity of 100,000 (one hundred thousand) binary bits is desired.

6. INPUT-OUTPUT AND PERIPHERAL EQUIPMENT

The following equipments are required:

(a) A paper tape reader and punch for use with 1" 8 channel tape.

(b) An On-line typewriter for control and monitoring purposes.

(c) Two magnetic tape transports with a suitable controller. These transports must be capable of reading and writing data in I.B.M. compatible format at a rate of 556 bits per inch at 75 inches per second tape speed.

(d) The computer must possess the facility for connection of two special purpose input-output devices. These devices will supply and accept data in parallel form. The Tenderer is to give full details of the facilities offered for this purpose and required signal levels.

7. PROGRAMME SUPPORT

Both an algebraic compiler and a symbolic assembly programme are required and these should be capable of operation in conjunction with the standard input-output and peripheral equipment described above without intermediate programme output. Some form of load and go operation is desired.

8. OFF-LINE EQUIPMENT

Full information necessary for the specification of paper tape preparation units is to be provided with the tender.

9. DATA THROUGHPUT REQUIREMENT

The computer is to be capable of continuous reading

...3/..

of information at the rate of 2500 12bit words per second and of concurrently assembling and outputting this information in I.B.M. compatible records 100 characters long at the rate of 50 per second.

The department will favour machines in which a higher throughput rate can be attained. The capability of the system to perform this task must be adequately demonstrated in the tender.

10. TERMS OF LEASE

The computer is to be leased on the basis of single shift operation i.e. a nominal 176 hours of productive operation per month. The Tenderer in addition is to state the charges pertaining to extra use above the nominal monthly total.

11. INSTALLATION AND MAINTENANCE

The installation and maintenance of the machine is to be the full responsibility of the Tenderer.

The Tenderer is to provide an on-call maintenance service including all required replacement parts on the basis of single shift operation for five days per week. The Tenderer is to provide any required test equipment.

Routine maintenance is to be performed outside normal departmental working hours.

The lease price shall include the cost of the above maintenance service and all installation costs.

12. OPERATING CONDITIONS

The equipment must operate from 50c.p.s. mains power at either 415 volts 3 phase or 240 volts single phase. Equipment must operate satisfactorily with mains variations of $\pm$ 10%.

The equipment is to be installed in an air conditioned area having a temperature of $20^{\circ} \pm 3^{\circ}$ centigrade and a relative humidity of 40% to 60%.

The Tenderer is to state in the tender the heat output, power input and power factor of the equipment.

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

15 TOOLANG ROAD, TURRAMURRA NORTH, N.S.W.

15th February, 1963.

Mr. Harlan E. Anderson,
Digital Equipment Corporation,
MAYNARD. MASS.
U.S.A.

Dear Andy,

Your cable setting up our phone conversation for Sunday has just arrived. I hope to settle some of the queries which are raised by this letter when we talk then.

The enclosed specification is for the computer mentioned on page 5 of my hand written letter to you, dated 8th February. I do not of course have enough technical literature or technical data to make up an adequate proposal to A.R.L. In particular the first thing we need to know is whether we can meet the delivery requirement for their configuration and their software requirements.

Jack Masur believes this is between C.D.C. and ourselves. I would like to visit A.R.L. next week to find out more about their requirements and to assure them of our ability to provide technical support in Melbourne.

Jack is of course very keen to get something going in Melbourne and to quote his letter to me,

"It is imperative to have a computer here and we should quote reasonable prices. I am quite happy to agree to a commission reduction if need be. It is of paramount importance to set up the first computer."

Actually of course, we are unlikely to get any publicity value from these people because of security. However, it is the kind of customer we are looking for and it would help us to be able to say we have a computer in the country.

I am looking forward to talking to you on Sunday,

Very kind regards,

R. G. SMART.

c.c. Mr. John Fadman

cc. Jon Salimon

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

15 TOOLANG ROAD, TURRAMURRA NORTH, N.S.W.

17th February, 1964.

Mr. Harlan E. Anderson,
Vice President,
Digital Equipment Corporation,
MAYNARD. MASS,
U.S.A.

Dear Andy,

It was great to talk to you on Sunday, and of considerable assistance to me. The main items now outstanding are:

1. Various queries relating to a PDP-5 prospect (Anderson Analysis Pty. Ltd.), raised in my letter of 12th February. I plan to give them a preliminary feasibility report on Tuesday, to be confirmed in detail when I have more information regarding delivery, software, costs, installation requirements, etc. Could you also advise how many are now on order, and how many delivered?

2. The answers to queries on PDP-4 for the Aeronautical Research Laboratory in Melbourne, raised in my letter to you of 15th February, and also page 5 of my hand written letter of 8th February. The main point is, do we want to hire this machine to them? I will discuss this proposition with ARL late next week, and get in touch again.

3. My request for a supply of Technical literature on PDP-4 and PDP-5 so I will have something to hand out on these machines. F-51(B) and F-41(D) are the kind of thing. Installation details for these machines are also required (power, size, weight, etc.), and software status for the PDP-5.

As you will see by the enclosures, our news releases got into the Australian Financial Review in a special lift-out supplement. This gives us good cover of business and finance houses. You will also notice an advertisement directing attention to the

8 February 1964

Mr. Harlan E. Anderson
Digital Equipment Corporation
Maynard, Massachusetts USA

Dear Andy:

This is a hasty note on progress out here plus some requests for information.

The Universities are proceeding nicely as far as I can judge. I have spoken to all but ANU and will do that early in the coming week. I will visit them all in my first week of duty for DEC. That is the week starting 17th Feb. The late closing date at NSW has held everyone up fortunately and they will probably all meet late next week at the earliest.

The general response to-date is that WA are quite taken with the idea of time sharing and are making all sorts of schemes to make use of this facility. I called you last night to get a check on the remove sighting of the multiuser stations and of the card reader. They have in mind about 100 yds. I said this was probably o.k. with a good quality connecting line but could you cable an early reply advising any extra cost for equipment which would be required. This will give me an excuse to call them again early next week.

They would like to get rid of the compatible tape unit and buy a CRO and light pen if the politics will allow. They have also asked if an IBM 407 tabulator can be connected up for use as an extra card reader and printer. Not a very exciting thought but their aim is to make some use of this machine which they have bought. I'm looking into this by getting some data from IBM on the 407. It's not worth spending much time on but if anyone in Maynard has tried this inter-connection or could hazard a guess at the cost I would like to hear. My main aim is to show Dennis Moore we can deal with this kind of problem.

Monash are "unhappy about the software" by which they mean they want a promise of COBOL or something like it within 12 to 18 months. Although we may beat this by being so much more desirable on hardware, Bellamy might have all Universities ganging up on us and this could weaken our image. In my cable to you last night I asked if Dit Morse had any bright ideas on the way in which COBOL could be provided. Does his Syntex Directed Compiler offer any hope. Ferranti Packard appear to be thinking out some short cuts to producing a COBOL compiler. I'm not yet sure it will be necessary to offer the compiler but I could use some more information such as how it could be done and what it could cost in money or programming time. Cliffe Bellamy has got another £25,000!

I expect to see Prof. Baxter (Vice Chanellor of NSW) on Monday and will call on Les Hill. Les is also very taken up with time sharing and is very keen on the 32,000 word store. I would say we were in a good position , although ICT are making a concerted attack. Prof. Brian Speedy could be a weak spot as he is very friendly with ICT people. Anything you can send him directly or through me would help. Have you been visited by Prof. John Blatt yet? He will have a loud say and possibly a big say and he is against FP6000 and ICT I think. I would appreciate hearing how Blatt's visit went.

At the committee meeting of the NSW Computer Society last Thursday, Prof. Bennett, Chris Wallace (Sydney Univ.) and Brian Speedy spoke in praise of the PDP-6. John Bennett fully expects his project with the DEC oscilloscope to go through soon.

Our news releases are not being accepted in the Sydney papers and I haven't heard any reports from other states. If I can't crack this soon I'll get a P.R. Consultant on the job. The computer population nearly all know about us so I haven't got too excited about the general public yet. I plan to put a general staff advertisement in the papers next Saturday, partly to advertise the company and partly to get some more names (mainly from other States) on the "waiting list" of potential employees, so we can pick them up quickly when the time comes.

I would like to have an up to date list (or at least the latest published list) of technical publications, to help sort out J.J.'s literature and to get mine up to date. Is there an up to date version of the PDP-6 Bulletin F-61? That is, something I can hand out in quantity. As you know, I have very little literature except on the PDP-6. Is there a crate of stuff on the way yet? Also are the reprints of the time sharing papers coming soon? Finally, as regards publications, I would like to be kept up to date on program development. ICT's attack on us will probably be based on an untried machine and untried software. They read this in Adams booklet and although I've been holding up DEC's end satisfactorily they may attack us openly at the Universities, since they have very little in their favour in a straight clean run.

We have a long term prospect of selling a PDP-6 to an Australian Stock Exchange. Ferranti Packard already have one in at Toronto. I'll write about this separately in more detail. Does anyone at Maynard have experience of stock exchange systems operating in real time or of the Toronto system in particular?

The last item originates from J.J. who has some "inside" information about a Government department who have bought a machine on long delivery (over 12 months) and who wish to rent a PDP-4 for the intervening 12 months or so. I haven't been able to get to this directly but the business depends on our agreeing to rent a PDP-4 for about 12 months. The configuration is approximately: -

PDP-4 with 16K store (or 8K this is not clear).
Extended Arithmetic element.
Printed/Keyboard
Paper Tape Reader and Punch.
Probably a compatible tape (I'm vague about this requirement, "556 bpi" was given to J.J.)
Algebraic compiler
Symbolic Assembler.

The questions J.J. is asking are: -

1. What is our shortest delivery of this equipment and software? (he is looking for a few months!)

2. Are we interested in a deal of this kind on rental?

3. If (2) is yes, what fraction of the purchase price is the monthly rental, (1/30) or even less generous?

Would you be able to cable on these questions please?

Our IBM Executive typewriter with mid-century type is on about six to eight weeks delivery and costs about £380. I'll put in an order this week-end and rent a substitute pending its delivery. My secretary has agreed to come to Digital at £18 per week starting Monday 17th February or soon after. The banking forms should be finished early next week and I can finance the business up to about the 20th Feb.! I guess you will be able to send out some cash before then. On the practical point of spending money on capital items e.g. typewriter, office furniture, etc., the solicitor is a bit bothered about this; mainly what authority we have in this respect in Australia. My understanding is that I should go ahead with typewriter (£380 approx.), desk and chair for self and secretary, steel cabinets, visitors chairs, etc., initial furniture requirements being about £300 to £500. I will have a more detailed picture of estimated costs completed next week. Is John Fadiman's arrival date set yet? Do you require medical report for secretarial staff and if so is form 500-9/63 the one?

Well it was a great pleasure meeting you, Bob and Alan and I'm greatly looking forward to getting busy (full time) for Digital. Sorry for handwriting this rather lengthy letter!

With very best wishes,

Yours Sincerely,
Ron Smart

Mr. Harlan E. Anderson. 17th February, 1964.

classified ads in Saturday's papers (reference my letter to you of 8th February). We also had a very brief mention in one Sydney newspaper. The trade journal, Modern Office & Data Equipment, has promised to show our releases in the next issue (February). I am making occasional use of the Advertising and P.R. firm, Joel Asher (the one you suggested).

Very best wishes,

Ron

R. G. SMART,
General Manager.

RGS.JD

c.c. Mr. John Fadiman

DIGITAL COMPUTER SPECIALISTS

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

This recently incorporated subsidiary of Digital Equipment Corporation of the U.S.A., is receiving applications for staff positions in Sydney and other Australian cities.

The parent company manufactures general purpose digital computers, logical circuit modules and special digital systems. Opportunities for employment exist in Australia for professional engineers, scientists, advanced part-time undergraduates and highly competent electronic technicians to work on the application, installation and maintenance of advanced digital computing systems and the design of special purpose digital equipment.

Applicants must be trained and experienced on digital computers or digital logic and transistor switching circuits.

Applications should be in writing and give full details of qualifications, training and experience. All applications will be treated with the strictest confidence.

Address them to:

Dr R. G. Smart,
DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.,
G.P.O. Box 50,
SYDNEY, N.S.W.

DATA PROCESSING MANAGER:

An expanding organisation located in the city requires a Manager for its Data Processing Department.

Due to development within the organisation the company is seeking a man who will be able to oversee the data processing operation and to develop fully these operations in a wider range of applications.

The Data Processing Manager will be responsible to Management and will have full control of all data processing staff.

It is expected that the successful applicant will be about 30 years of age, with considerable experience in the supervision of punched card operations.

A commencing salary in the vicinity of £1800 is contemplated.

Detailed applications should be addressed to—

"Staff 540."
Price Waterhouse & Company,
Box 4177, G.P.O.,
SYDNEY.

Sydney Morning Herald
Saturday 15-h Feb

c.c. J. Robinson

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

15 TOOLANG ROAD, TURRAMURRA NORTH, N.S.W.

18th February, 1964.

Mr. Harlan E. Anderson,
Vice President,
Digital Equipment Corporation,
MAYNARD. MASS,
U.S.A.

Dear Andy,

I will be setting off tomorrow for Canberra, Perth on Thursday, and back to Melbourne on Friday. This should give me a good picture of how the Universities are thinking.

Today I visited Professor Vowels. The University of New South Wales is in no hurry to make up its mind, mainly because some manufacturer or manufacturers are dropping strong hints that they have some new equipment coming out. IBM would be in this category, and I strongly suspect that I.C.T are thinking thoughts about connecting our micro-tapes onto their FP6000. Although this can't be stopped, perhaps it could be slowed down by not being too free with technical details on the micro-tapes. They won't, of course, get any technical information in Australia, however I don't know whether they have made a formal approach to D.E.C. or whether they have some other source of information. It is possible that I am mistaken about this "improvement" to their FP6000, but I spoke briefly with Ian Sharp (Programming Manager, and quite a good salesman), who has come out from Toronto again, and he seemed to be hinting strongly in this direction.

He seems to be definitely in the market for a CRT display and light pen for one of his existing users.

Les Hill, from New South Wales, has asked me to clarify the pricing on the magnetic drum and input/output processor.

1. Does the $95,000 in your price list include the drum and processor complete?

2. What would be the price of one additional drum?

I made some reference, while talking to Professor Vowels, to the visit of John Blatt and his comments on software. Vowels is very keen to keep machine selection under his control, and would like me to give him a copy of your letter

Mr. Harlan E. Anderson. 18th February, 1964.

in reply to the points raised by John Blatt. Anything we want to say concerning software and our ability to supply this would be accepted by Professor Vowels as part of the tender.

On the question of software development in general for Australian PDP-6's, I had the vague impression that you thought we might do some of this development in Australia. Although I didn't respond vigorously at the time, I have since thought that there may well be some merit in doing this. I didn't mention this to Professor Vowels, but he asked me whether we would entertain the idea of the University developing software for the PDP-6 under our sponsorship. I am vague at the moment about just what software might be done in this way, but what is your reaction to this approach? I think Professor Vowels has in mind that he would like to have some development work done in his School. Perhaps you would keep this in mind and advise me of any projects, not necessarily in the programming field, which we could suggest to him?

Further to the question on a PDP-5 for Anderson Analysis Pty. Ltd., there is one additional query. The system I want to propose is to have an output typewriter, and I imagined using a 33 ASR teleprinter. I have just discovered through their agents, however, that this has only an 8-inch carriage, whereas the customer should really be able to type on foolscap lengthwise. This means that we would need at least a 12½-inch carriage. It would also be a considerable advantage to be able to prepare duplimats for off-set printing on this output typewriter.

The question is, can we offer such a machine? Would it be a special job, or could it be quoted at a reasonable price? Although this PDP-5 prospect might sound a bit messy, I feel it is worth pursuing the question further since this could give us a market area in Australia which is, at present, untouched - that is, for a low priced computer suitable for low volume data processing, but which could be built up by the addition of micro-tapes and a line printer. I would like some advice on this PDP-5 configuration soon.

Our final query concerns the CRT display and light pen for Sydney University, who wish to couple these up to their KDF-9. I have verbal advice that we have the order, and that written confirmation should be forthcoming in a week or two. We won't get this confirmation, however, until we can provide enough information on which the University can place an order. Could I therefore have prices, delivery and enough technical description to make it possible for the University's requirements to be specified and for an order to be placed? They will require the following:

a) CRT display type 30 (or similar). Do you offer different phosphors, e.g. P7, P15, P24, and if so, what are their relative characteristics and prices?

b) The light pen type 370 (or is there a later version?).

Mr. Harlan E. Anderson. 18th February, 1964.

They will also probably want:

c) Incremental display type 330 (or similar). I assume we don't need the grid line generator if we have the incremental display.

d) Character generator type 33 (or similar).

It has not been possible to put a lot of thought into which of these units should be ordered because we lack technical data on how they operate and how they might be coupled up together. It sounds as though Dr. Chris Wallace at Sydney University would like to do his own electronics, but he is sadly in need of guidance on the best way to use our equipment.

A rather vital factor I cannot extract from our present literature is the persistance characteristics of the CRT phosphors. The second mystery is the operating system used with a light pen. What is normally done to interrupt the output display so as to keep track of the light pen position? How does one find the light pen in the first place? Can these things be done with a fast scan which doesn't interrupt the picture being displayed, and roughly how long does it take to find the light pen at random? Once it has been approximately located, I assume that the light pen circuitry includes registers which hold the digital position of the light pen when it was last illuminated.

I think you will follow our problem from what I have said. I look forward to hearing from you on this question soon, as it would be nice to tell PDP-6 prospects that we already have other business signed up in Australia.

The £3,000 arrived, and is on its way into our account. Many thanks - this should keep us going for a while!

Very best wishes,

Janice Dill

for R. G. SMART,
General Manager.

RGS.JD

c.c. Mr. J. Fadiman.

digital equipment corporation
MAYNARD, MASSACHUSETTS
TWinoaks 7-8822 TWX MAYN 816

February 19, 1964

Mr. Harlan E. Anderson, Vice President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Anderson:

Please consider this notice of a meeting of the Board of Directors of Digital Equipment Corporation, to be held at the offices of American Research and Development Corporation, 200 Berkeley Street, Boston, Massachusetts, on Wednesday, March 11, 1964, at 9:30 a.m.

sent 2/24/64 mm

I shall appreciate your indicating on the enclosed copy whether or not you plan to attend the meeting. returning the copy to me.

Very truly yours,

Dorothy E Rowe

Dorothy E. Rowe
Clerk

DER:ah
Enclosures

PHILCO CORPORATION
A SUBSIDIARY OF Ford Motor Company

OFFICE OF THE VICE PRESIDENT
TECHNICAL STAFF

PHILADELPHIA 34
PENNSYLVANIA

February 20th, 1964

Mr. Harlan E. Anderson
Vice President
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Harlan:

Just a brief note of appreciation for the time taken to acquaint me with your company. Needless to say, I found the visit with you most enlightening. I shall look forward to visiting you occasionally during future trips to Boston.

Again, let me invite you and Ken to visit with us at Philco. If you will advise me of any plans you have to visit Philadelphia, I will arrange for you to have an opportunity to visit our microelectronics operation.

Again, my thanks for the many courtesies extended to me.

Best regards.

Sincerely yours,

Dean

S. Dean Wanlass

b

24 February 1964

Dr. Walter I. Wells
Massachusetts Institute of Technology
Lincoln Laboratory
Lexington 73, Massachusetts

Dear Dr. Wells:

Thank you for your letter of 6 February. We appreciate the courtesy and patience you've shown in the matter of the 510 magnetic tape control.

Digital's primary concern in this matter is to insure that your system is completely operational as soon as possible. We realize that our difficulties with the tape system have been a great inconvenience to you, and we will do everything possible to minimize any further inconvenience. If further work is required on the 510 we will be happy to perform such work at those times most convenient to you. Contact myself or Mr. Shields for anything you may need.

The interim tape system which we loaned to you is urgently required for other work. Obviously, you must continue to use it until the 510 can be checked out, accepted, and programmed to handle the job. At the same time, we would like to have some idea of when we can have the loaned system available. We feel that it would be reasonable to expect the shift to take place within one month after the 510 has been checked out and accepted. In addition, it should be possible to complete the checkout and acceptance testing of the system within one month from the date it was re-installed, even though such work is not to interfere with your scheduled operations.

24 February 1964

If these arrangements are acceptable to you, it means that the hardware will be accepted by 3 March, you can plan on having your final system operational no later than 3 April, and we will have our tape units available to us by that date.

Very truly yours,

Robert J. Beckman, Manager
Customer Relations

RJB/eb

cc/Harlan Anderson
Vice President, D. E. C.

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

15 TOOLANG ROAD, TURRAMURRA NORTH, N.S.W.

24th February, 1964.

Mr. Harlan E. Anderson,
Vice President,
Digital Equipment Corporation,
MAYNARD. MASS,
U.S.A.

Dear Andy,

I'm very pleased that Alan Kotok will be out here on Sunday next (1st March) for two weeks. His main task is to explain enough of the workings of the software to convince people that time sharing will really work and the necessary software will be delivered with the machines. The software manuals are very useful, but leave many unexplained mysteries, particularly regarding the workings of Monitor in conjunction with the multi-user stations. Efficient on-line debugging is hard to follow from the existing technical writeups, which suggest the computer is fully occupied while examining and modifying one's program with DDT-6. It would be nice if this were done as an editing operation and that the computer was only fully occupied by debugging when the program was given a trial run with breakpoints keyed in beforehand. Will DDT-6 deal with Fortran or only Macro-6? Does Fortran have its own debugging?

As well as explaining how the software will work, could Alan also give a status report or times when various packages will be completed? It would help to say how the relocation and protection registers will be used in the monitor system. The general idea of time sharing has been well sold in Australia, but there is some criticism by other companies (which don't have it) that it is not practical on University size configurations.

ANU in particular have been convinced that the 7040 and Elliott 503 and CDC 3200 can all time share with some sort of memory protection. They are the only ones thinking this way, and a detailed consideration of our monitor system, mentioning the role of memory protection, should help clarify their thinking. At present they are favouring a conventional 4-tape system (no microtape, no multiusers), but it may be possible to convert

them, if they see a smooth system allowing efficient debugging with multiuser stations and effective time sharing of i/o operations with compiling and running of programs. If ANU stick to conventional tape units and only have four of them, can we still time share input with compute or output with compute with the monitor system provided? They are very impressed by our speed, but are not convinced they need it!

Which Fortran II is ours an extension of? The 7090, 7040 or 1620 version? This is a question from ANU. Could Alan bring out the particular Fortran II so we can show it to people?

Our biggest obstacle in Perth is to have the company accepted as able to deliver machine and software on time and to specification (they love our machine). The same issues are certainly in the minds of ANU and probably NSW. Could Alan bring information on the typical performance of our systems PDP-1, -4, and -5 as regards reliability and keeping to delivery schedule. Can we say who is getting the first PDP-6, and how close to schedule we are running? Are there other PDP-6 orders yet? Both Perth and Monash say our machine performance is so good for the price that there must be a catch somewhere. They think it is in the software. I have said:

i) The machine is very new, and newer machines are ~~greatly~~ generally better value for money.

ii) We sell the modules as well as the computers. This enables us to mass produce the components from which machines are fabricated, and thus spread the development costs.

iii) I also wanted to say we had a specially clever design staff, but that sounded too cheeky! Are there other reasons?

The following particular questions arose in Perth:

a) Could they get a CRT and light pen without all the bells and whistles? They very much want one but can't find $40,000. Dennis Moore suggested we donate one and in return they will prepare crystallographic programs for the PDP-6 library. These programs could be a good selling point; has the idea any appeal?

b) Again for the crystallographers, they wish to put a "goniometer" on line, supplying and receiving data in serial character mode (like a

teletype). The data input rate would be a maximum of 35 decimal digits in a serial burst every second, with an output rate of about 1/30 of this. A 500 word editing program would put the data on a microtape for a subsequent solid computing effort.

Our company image would be improved by some on-the-spot service, if Alan could bring out the design of the i/o control for a teletype or similar one character device so they can see what sort of interface is needed and what it might cost for the goniometer which they are at present designing.

c) Just how easy is it to couple in an extra i/o device, and what are some rules of thumb for estimating the cost of such an interface (i.e. $x minimum plus $y for each bit in the register).

d) Perth wish to couple in analogue devices, doing their own A/D conversion. Presumably this too can be handled in a serial manner (at the expense of machine time), and we want to give a cost estimate and to indicate what signals etc. we require. The problem is very similar to the goniometer.

e) The power mains in Perth are not too stable. It is suspected that the frequency moves by more than one cycle per second. Is the tolerance on our power supplies more than a cycle per second, or is this quite critical because of the tuned transformers?

Turning to the question of commercial software, I am sure we must provide packages to sort files on tape, update tape files from cards or paper tape, printout business reports from magnetic tape files, etc. These things could easily be written in Macro-6 or based on software already scheduled, once a standard approach to file formats on tape was established. Such facilities would probably satisfy all but Monash initially. Perhaps we could do these in Australia. Alan's comments on these routines would be very helpful.

Regarding "Compact Cobol", I believe this is the official name of a Cobol for small computers, specified by the CODASYL committee responsible for Cobol itself. Could Alan bring out a specification for this? Could he also bring out the latest position on our Syntax Directed Compiler? It would be nice to have Compact Cobol by the end of 1965, leaving time to get the major

Mr. Harlan E. Anderson. 24th February, 1964.

scientific software out of the way beforehand. I don't think we need offer it any sooner, even to Monash.

Monash want to read IBM data tape with economic data prepared on CDC machines in Canberra. This cuts out microtapes unless someone has microtapes and compatible tape on the one machine.

On the question of buying time back, someone has offered ANU about £22,000 ($48,500) to buy back time over two years, and they asked whether we would do anything. Monash has been offered about £70,000 ($150,000) by CDC who want time for program development. They are giving up eight hours per day for this discount! I feel our equipment is so much better that we need not spend so much on buy back. On 5th March, however, the other universities are going to discover that NSW is being offered 5% extra discount for use of the machine, and they may be feeling "left out of it". I would like to consider this matter further in the hope of finding a legitimate reason for a modest buy back. We might even consider a gift of a microtape control and twin drive to ANU (assuming they buy conventional tape) in return for use of it to convert microtapes from elsewhere to IBM compatible. We might give Perth the CRT and pen (without character and vector generator) in return for preparing crystallographic software and some use of the PDP-6 by us; e.g. demonstrating the CRT. More of this later.

As advised by 'phone yesterday, ARL have about £24,000 ($53,000) to spend on having a PDP-4 for 12 months with 4096 words, 300 ch/s and 63 ch/s paper tape, monitor typewriter, extended arithmetic and two 556 bpi compatible tapes. They also require an i/o interface to couple into an A/D/A device, dealing with say 18 bits in parallel. We can come somewhere near the price except for the duty and sales tax, which we would have to pay before renting the machine out to ARL. I will check this officially today and write again, but the position is as follows as far as I know:

a) Equipment purchased by universities and governments (e.g. ARL, CSIRO) carries no duty or sales tax.

b) Equipment purchased by private enterprise or rented by us to anyone carries duty and sales tax, payable as an initial charge.

The amounts concerned are as follows:

duty = $7\frac{1}{2}\%$ of "list price"

sales tax = $12\frac{1}{2}\%$ of (list price + duty)

or alternatively, use "invoice price to Australian subsidiary plus 20%", in place of "list price". IBM show a very low invoice price and by this means get very low initial charges.

Assuming the ARL machine is £66,000, the duty (on list price) is £4,950 and the sales tax £8,850, adding a total of £13,800. Because of this we would have to make a special deal to keep within their budget.

Could Alan bring out some details (including configuration requirements) of the existing Fortran for PDP-4 and the new tape version? Could he also bring out advice on delivery of the type 570 tape units etc. for PDP-4? Perhaps we could give them microtapes in July, and add the compatibles soon after.

I don't anticipate any trouble setting up the programming and maintenance support in Melbourne. I would, however, like to have Robin Frith's suggestions of likely employees to add to what we already have on the list. I have in mind an electrical engineer with both computer maintenance and programming experience - a good fellow - who would like to join DEC.

I'll be looking forward to picking up Alan at Mascot airport on Sunday morning, and we will arrange his accommodation and our visits to other States. I'm sorry to be dragging him back again so soon, but he will be a very great help in getting these orders.

Professor Billings, Chairman of Perth computer committee, said that I.C.T would fly Dennis Moore to Toronto to see the FP6000. He asked if we would consider doing the same. He is genuinely concerned about the "newness" of our machine, and would want to be sure before finally placing the order. We must not under-estimate their concern about buying from an unknown supplier. Alan should come prepared to talk about things such as - how the prototype is coming, when production started for the production models, when the first is expected, etc. If we were forced into flying Dennis over to the States, we could probably get a letter of intent or something first, saying that they would buy if everything is found to be as we had said. We don't want to fly someone over from every university, so Dennis would have to go on behalf of them all. Also, we don't want to appear to be bribing Dennis into giving us the order! Alternatively, we should be able to get an independent witness, resident in U.S.A, to report on PDP-6. Do you know of anyone suitable for this sort of task?

Mr. Harlan E. Anderson. 24th February, 1964.

So I can do some budgeting on servicing these PDP-6 systems, could you advise how much of the selling price will be available to the Australian company? I need this to plan software backup, which is very important to us of course.

Very best wishes,

R. G. SMART,
General Manager.

RGS.JD

c.c. Mr. John Fadiman.

c.c. Mr. Harlan E. Anderson.

MAR 2 1964

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

15 TOOLANG ROAD, TURRAMURRA NORTH, N.S.W.

26th February, 1964.

Mr. Jon Fadiman,
Special Systems Department,
Digital Equipment Corporation,
MAYNARD. MASS,
U.S.A.

Dear Jon,

Very many thanks for your letter of 20th February. We are looking forward to your visit out here towards the end of March, and I think perhaps I should be routing some of my queries through you rather than sending them directly to Andy.

Regarding the PDP-4 proposal for ARL in Melbourne, I was mistaken in saying (in my letter dated 24th February to Andy) that we would have to pay a 12½% sales tax if we rented the machine to ARL. The position is that, regardless of whether the arrangement is rental or purchase, we don't pay sales tax when the equipment is going to a Government Department or University.

The position regarding import duties is rather more complicated. If the equipment is sold directly to Digital Equipment Australia Pty. Ltd. from DEC, then duty is payable and the rate is 7½% of list price (current domestic value). This applies regardless of to whom we subsequently sell or rent the equipment. If, however, the equipment is going to a Government Department or University and they place their order directly on DEC rather than on the Australian subsidiary, then no duty is payable. This is clear enough in the case of a sale. When we come to the question of rental, however, as applies to ARL, the position is a little more complex. My understanding here is that we again would not pay duty provided the transaction was between ARL and the parent company overseas. I understand that the finance for rental would be provided from DEC rather than from Australia, and under these circumstances it appears that no duty would be paid.

Would you be able to advise me fairly soon how the rental negotiations would be organised between DEC, ARL, and

Mr. Jon Fadiman. 26th February, 1964.

ourselves? Armed with specific information on this question, I can again do battle with the Customs people in Australia and get a firm ruling. I am enclosing a pamphlet issued by the Customs people describing some aspects of customs duty in Australia, and you will notice that the Customs Department have a representative in New York at 630 Fifth Avenue, New York 20.

I also discussed briefly with these people what concessions we would have if we did some local assembly or manufacturing. We can go into this later on when you are out here.

Very best wishes,

RGS.JD
Encl.

R. G. SMART,
General Manager.

c.c. Mr. Harlan E. Anderson.

copy D. GB, DM, RL, RS

HEA file

26 Feb. 64.

Dear Mr. Anderson,

Thank you for your letter of Feb 19th, which arrived today, as well as your earlier letter with the cheque for my expenses for the visit to Maynard.

I am happy to hear that my letter had the intended effect; it would have been a shame to spoil a basically nice machine through insufficient software effort.

There is one comment I'd like to make about priorities, now that you are reconsidering your software scheduling. In my opinion, the most critical area is the FORTRAN compiler. In fact, the PDP-6 will stand or fall largely on that score. The point is the following: The hardware design assumes that efficient use is going to be made of the 16 special memory locations; otherwise the machine would be somewhat slower than some competing machines. One can make very good use of 16 special locations by machine-language (I mean assembler-language) programming, but for a number of reasons there will be rather little of that. The small programmers don't know enough, or care enough about programme efficiency, to use anything except FORTRAN or ALGOL. The big users, like myself, do care about our running times; but my own programmes are generally so big that I would have no hope of debugging them in any reasonable time if they were written in ~~compile~~ assembler ~~language~~ language. For example, SCANDAL in compiled form contains some 50000 machine commands, in a chain with 5 links. By the time such a programme is debugged, the machine is out of date, and one must start all over again. Thus, again it is FORTRAN programming almost entirely.

The development of a FORTRAN compiler which makes really efficient use of your 16 memory locations is an exceedingly difficult (admittedly also a rather fascinating) problem, and will require the very highest programming skill. It can <u>not</u>, in my opinion, be done through any "modular" concept; on the contrary, the compiler will have to have some "global" features, and I would anticipate that special source language statements may be necessary to enable the compiler to recognize a tight inner loop and deal with it efficiently.

I was very impressed, during my short discussion at KEYDATA, with the programming skill of Adams Associates. I am wondering whether, if you are planning to use them at all, it might not be wiser to let them get involved in the compiler programming in addition to, or perhaps instead of, the writing of library subroutines. Library subroutines are basically a much easier task, and can be farmed out among a number of programmers. Compiler writing is probably the most difficult programming known to man, and must be done by a very small tight group, preferably just two or three people, all of whom have considerable experience and ingenuity.

The difference between the SDS compiler and the IBM or CDC compilers is remarkable, and I believe SDS used an outside software firm to write the compiler. SDS has a one-pass compiler on their smallest machine; I saw their SDS 920 compiler in operation, and it is almost too good to be true. The quality of the SDS compilers is a strong point in favour of any SDS machine. By comparison, the mathematical subroutines and even the operating system are of much less importance. Either or both can be improved and revised by the user, without prohibitive effort. But rewriting a compiler is harder than writing one in the first place, and is quite out of the question.

I hope these remarks are useful to you.

SincerelyYours

John Blatt

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCE

TELEGRAPHIC ADDRESS: ATEN, ABINGDON
TELEPHONE: ABINGDON 1220 Extn.

RUTHERFORD HIGH ENERGY LABORATORY,
HARWELL,
DIDCOT, BERKS.

OUR REF:
YOUR REF:

2nd March, 1964

Mr. Harlan E. Anderson,
Digital Equipment Corp.,
Maynard,
Mass, U.S.A.

Dear Mr. Anderson,

Thank you very much for our recent correspondence on the Type 57A Control Unit. As you will have probably realised from my silence for the last month or so, this project has run into difficulties. In fact we are now having to abandon it. The reasons are various but can be summed up by saying that if we were to buy this tape system it would reduce the amount of money available for peripheral equipment that we now believe will have a higher utilization.

One of these pieces of peripheral equipment is a C.R.T. display unit. This is something that our work urgently requires and I have been assured that funds are available for such a unit. I have been reading about your type 340 Display Unit. I feel certain that it would be ideal for our application. May I ask the following questions:

i) What phosphor decay times are available?

ii) Would there be space in the Units racks to mount a Tektronix 'scope - a 561 or 536? We would need this so that we could photograph displays.

iii) Do you have an alternative suggestion to ii) for photographing displays?

iv) The cost of the complete 340?

v) The price reductions for purchasing the 340 without the vector or character modes?

vi) The price increase for purchasing the 340 with the 36 bit interface?

vii) Delivery time?

Thanking you once more for your help in the past.

Yours faithfully,

David H. Lord

D. H. Lord

original given to Jon Faulkner for reply.

Answered via J.F.

COMPUTER SYSTEMS, INC.

OFFICE
3021 WEST CLAY STREET
RICHMOND 30, VIRGINIA

TEL 703 / 359-2473
TWX 703 / 359-5662

March 9, 1964

Mr. Harlan Anderson, Vice President
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Mr. Anderson:

Thank you for your hospitality when Mr. Grossimon and I visited your plant last week. I certainly hope that the day will come when your company and ours can have some mutually beneficial associations. I would certainly enjoy visiting with you again and if you or any of your associates get down Richmond way, I hope you will stop in.

Very truly yours,

COMPUTER SYSTEMS, Inc.

D. B. Morrissett
Executive Vice President

DBM/fs

HONEYWELL

MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

R. D. PASH
Principal Advisor
Manufacturing Industries

March 9, 1964

Mr. Harlan Anderson, Vice President
Digital Equipment Corporation
Maynard, Massachusetts.

Dear Andy:

I was interested in reading the attached news item in Sunday's Boston Globe. I hope the Coast Guard's findings and evaluation will lead to your application of computers on the 30 ice patrol ships mentioned.

I was looking forward to Bob Blucke's and my get-to-gether with you in Wellesley on February 27. I understand from Bob, however, that we are trying for another date later this month. I will be anxious to visit your facilities also some time in the near future.

Dorothy and I enjoyed so much our visit with you and Lois in your lovely home in Concord. We are leaving this Wednesday for a two-week's stay in the Mid-West. Dorothy will be visiting our friends and family in Freeport while I am travelling, although I will be in Freeport two weekends. Upon our return we would like for you to spend an evening with us in Weston.

Best regards.

Sincerely,

Bob

R. D. Pash

Enc.
RDP:wpc

Computer Ship Eyes Weather

By DONALD WHITE
(Science-Industry Reporter)

When the Coast Guard cutter Evergreen sails from Woods Hole this week on the first survey of the 1964 International Ice Patrol season she will have a new scientific tool aboard.

Crowded into the already cramped space of the vessel's oceanographic lab will be a $24,000 computer made and installed by Digital Equipment Corp. of Maynard.

It is the first time a computer has gone to sea with the Coast Guard, and it will play a major role in helping officials evaluate proposals to equip 30 weather and ice patrol ships with computers.

The Evergreen is sailing north for the Grand Banks area a month earlier than usual in an attempt to study several basic assumptions about weather and ice conditions that led to the traditional April starting date.

It will be up to the computer—if it can stand the battering at those latitudes—to process temperature and salinity readings taken from the ocean to a depth of 2400 fathoms.

Hopefully the machine will reduce to seconds the work that has taken many man-hours in the past.

Data will eventually wind up at the National Oceanographic Center in Washington, D.C., where it will help plot ocean current charts used in predicting the drift of icebergs. It could also be useful in finding fishing grounds and learning more of the ocean itself.

The computer to be used is a PDP-5. Its six-microsecond memory gives it a computation rate of 55,555 additions a second. In anticipation of rough going it has been installed with overhead braces to counter expected lists up to 50 degrees.

Harlan Anderson

John Hancock
MUTUAL LIFE INSURANCE COMPANY
BOSTON, MASSACHUSETTS

GROUP SALES AND SERVICE DEPARTMENT

BOSTON GROUP OFFICE
Room 1215 Batterymarch Building
89 Broad Street
BOSTON, MASSACHUSETTS 02110
Telephone 482-2920

March 10, 1964

Mr. Richard Mills
Digital Equipment Corporation
146 Main Street
Maynard, Mass.

Dear Dick:

This is to confirm our telephone conversation of March 6 in which I informed you that the John Hancock had agreed to provide insurance coverage for Digital personnel who are foreign nationals working outside the continental limits of the United States.

As you know premium and claims for these individuals are payable in the United States and in United States dollars. I understand this procedure is agreeable with Digital Equipment Corporation.

Incidentally, it is not necessary to have an amendment to the contract in order to extend insurance to foreign nationals. These persons are subject to the same contractual provisions and will be insured in the same manner as any new employee of your company.

I trust this resolves the problem to your satisfaction. If you have need for further information, please let me know.

Very truly yours,

Frank V. DeYorio
Home Office Representative

FVD:ss

digital DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.
Colman House, Cnr Walker & Berry St, North Sydney.

Mr. Harlan E. Anderson. 13th March, 1964.

Moore checks the hardware and software. Their present thinking is that they will suggest we pay one fare and Ferranti-Packard pay the other, on the basis of a letter which says they will buy from one or the other manufacturer. Personally, I would favour an arrangement whereby they gave us a letter of intent to the exclusion of Ferranti, and that we pay both fares but subtract this amount from the discount we would allow them. While it is a great pity to have to adopt these tactics to sell our machine, it may well be worth it to get the matter settled in a reasonable time. Their present thinking is that they are afraid to be the first one to order PDP-6, and for this reason do not expect to progress the question until New South Wales decide what they will do. This, of course, will not be until after 7th April when IBM announce their new machine.

This is all very frustrating, not only for us, but for Dennis Moore and the other technical people in the University who want to get the equipment ordered and start planning their work around it.

ANU seem even less capable to making up their minds, but we will be up there tomorrow morning to see what we can do. John Blatt seems at the moment to be coming out fairly strongly on our side, although IBM have been telling New South Wales that they want to make them a special offer in conjunction with their new machine. The Vice Chancellor seems fairly brain-washed by IBM and, in fact, the Australian Atomic Energy Commission have decided to rent a 7040 and this would be available to New South Wales pending the arrival of their new equipment. I plan to visit the Vice Chancellor when Jon Fadiman is here to see if we can improve our position with him.

Regarding the ARL PDP-4, they are pretty definite about requiring a pair of our high performance compatible tape drives when the machine is first delivered. Does this mean

digital DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.
Colman House, Cnr Walker & Berry St, North Sydney.

Mr. Harlan E. Anderson. 13th March, 1964.

we cannot compete? When could we supply these drives (75" per second, 556 bits per inch)?

Very many thanks for sending Alan out for the fortnight. It was very well worth while. We are expecting to move into the office next week, and to get things into some sort of shape before the arrival of Jon Fadiman on Sunday week.

Very best wishes,

per James Dill

R. G. SMART,
General Manager.

RGS.JD

digital DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.
Colman House, Cnr Walker & Berry St, North Sydney.

HEA is copy
photo for: S Bell
R. Lowe
Sales file

13th March, 1964.

Mr. Harlan E. Anderson,
Vice President,
Digital Equipment Corporation,
MAYNARD. MASS,
U.S.A.

Dear Andy,

Alan has been a marvellous help out here during these last two weeks. I will leave him to relate all the happenings to you when he returns. As it turned out, he was just the right man since we had a good number of enquiries to deal with on both the programming and the hardware side.

The Seminar in Canberra did us quite a lot of good I feel, and established the superiority of our machine over the other hot contenders, which are CDC, Ferranti-Packard, and IBM.

Things in W.A. at the moment look very good in that all the potential users and technical people seem to come out strongly in favour of our machine. FP6000 is the only acceptable opposition since they are insisting on time sharing. We have, however, run into the problem of people not being able to make the final decision for fear of making a mistake. My interpretation is that Ferranti-Packard are only being kept in there as a back-stop.

The second complication is that the Deputy Vice Chancellor, Professor C. J. B. Clews (physicist) seems fairly openly to be aiming for a free trip to the States, and is trying to achieve this on the pretext of investigating the financial standing of the company while Dennis

Mr. Ron Smart,
Australian Manager,
Digital Equipment Corporation,
15 Tooland Road,
Turramurra North, N.S.W.

March 13th, 1964.

Dear Ron,

Many thanks to Gene Kotok and yourself for the pleasant dinner last Monday, which I enjoyed thoroughly. A couple of points have occurred to me since, especially concerning the "Vector Fortran".

As I first heard of it at Canberra, the idea was to permit FORTRAN statements of the type:

```
DIMENSION A(10,10), B(10), C(10), D(10,10), E(10,10)

B = A*C

B = B + C

A = D + E

A = D*E

A = 0.0
```

and more complex statements containing vector or matrix additions, subtractions, and multiplications. These statements all imply fast tight loops, and could be decoded into loops with the machine commands occupying the 16 fast memory locations of the PDP 6. The compiler would check that the dimension statements are consistent with the algebraic meaning of the statements, and print out diagnostics if they are not.

It seems to me that a modification of this idea would be sensible, useful, and easy to implement. In practice, one often assigns array dimensions a bit more generous than needed at the moment, with a view towards later increase without having to recompile everything. Or, again, the effective array size may vary during execution of the programme, whereas the dimension statement must remain constant throughout execution.

Thus there might well be an additional statement, for which I have not thought up a good name, but let's call it USEAGE for now. This is like a dimension statement, but defines the effective size of the matrices etc., at the moment. For example, if the statement

```
USEAGE A(5,6), B(5), C(6)
```

were to appear after the dimension statement above, the subsequent FORTRAN statement

```
B = A*C
```

would produce the 5 desired components of the vector B, using A as a 5-by-6 matrix and the first 6 components of C only.

Unlike the DIMENSION statement, the USEAGE statement may occur several times in the same programme, redefining USEAGE as required, and furthermore, USEAGE may contain symbolic sizes, i.e., USEAGE A(N,M).

The second point of this letter is the possibility of including a statement called TIME PLEASE . When placed before a normal FORTRAN statement, the statement TIME PLEASE has two effects:

1) It instructs the compiler to translate the executable statement in such a way as to minimize machine time in execution, rather than storage space used and/or time taken for compiling.

2) It instructs the compiler to print out, after compilation, the number of machine cycles needed to execute the object programme section generated by the executable FORTRAN statement.

It seems to me that TIME PLEASE is not hard to implement (certainly part 2 is trivially easy), and would be exceedingly useful to "type B programmers".

The third point of this letter is to ask for your consideration of the following proposition: The School of Mathematics in the University of New South Wales is very much concerned with the quality (or lack of it) of the High School teaching of Mathematics, and we are already doing some things about it. One of these things is an Annual Mathematics Competition, the prizes for which are donated to us by IBM. However, this happens only once a year, and we would like something more regular. We would like to put out a High School Mathematics Magazine, on the lines of the very successful ventures in Hungary, the USSR, and more recently the USA. The main "feature" of such a Magazine would be a regular set of problems, with solutions to be sent in, the best solution (along with the name of the student submitting it) to be printed in the next issue. There is no difficulty with finding problems, and the Mathematics Association of New South Wales has very kindly agreed to take a major part in the sifting of the student returns. But we do need a small amount of money to pay for printing and distribution costs. Approximately £ 100 per issue of the magazine would cover it, and we are planning initially on 5 issues per year. I wonder whether DEC would consider subsidising this venture, in exchange for the resulting publicity; we would of course acknowledge this support in a prominent position in the Magazine.

Please let me know how Digital Equipment Corporation feels about this.

Sincerely yours,

John M. Blatt,
Head, School of Mathematics.

c/
Mr. Harlan Anderson,
Prof. R. Vowels,
Mr. J.D. Graham.

LYBRAND, ROSS BROS. & MONTGOMERY

COOPERS & LYBRAND
IN AREAS OF THE WORLD
OUTSIDE THE UNITED STATES

80 FEDERAL STREET
BOSTON 10

March 17, 1964

Mr. Harlan E. Anderson, Vice President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Anderson:

The Revenue Act of 1964 has finally become law. In addition to the long-awaited tax reduction, it contains provisions making important changes affecting all classes of taxpayers. Some of the changes also raise intriguing accounting problems. In addition to the Revenue Act of 1964, there have also been important tax developments both here and abroad, including some at the state level.

To assist our clients in familiarizing themselves with the more important changes and developments as well as some of the resulting accounting problems, we are having a meeting at 1:30 P.M. on Tuesday, March 31, in the Hawthorne Room of the Parker House in Boston. Various of our tax experts from Boston, Washington and New York will discuss the changes and developments and answer questions raised.

The meeting will last from one-thirty to five, followed by cocktails. We cordially invite you to attend or, if you cannot, we should be glad to have you send someone in your place. If you wish, you may bring one of your associates.

Will you please let us know by Friday, March 27th if possible, whether you will be able to come? We enclose a copy of the agenda for the meeting.

Very truly yours,

Lybrand, Ross Bros & Montgomery

HSjr:ECB
Enclosure
Agenda

LYBRAND, ROSS BROS. & MONTGOMERY

BOSTON OFFICE

AGENDA FOR TAX MEETING

Hawthorne Room, Parker House
Boston, Massachusetts

March 31, 1964
1:30 P.M.

Revenue Act of 1964:

Provisions affecting business:

- Current tax payments - Sec. 122
- Investment credit changes - Sec. 203
- Regulated investment company changes - Sec. 229
- Gain on sale of depreciable real property - Sec. 231
- New stock option provisions - Sec. 221
- Imputed interest income - Sec. 224
- Personal holding company changes - Sec. 225
- Repeal of 2% tax on consolidated returns - Sec. 234
- Multiple surtax exemptions - Sec. 235
- 100% dividend received deduction - Sec. 214
- Income averaging - Sec. 232

Provisions affecting employees:

- Group term life insurance - Sec. 204
- Changes in travel expense allocation - Sec. 217
- Moving expenses - Sec. 213
- Qualified pension plan changes - Sec. 220
- Sick pay changes - Sec. 205
- Impact of rate reduction and reduced withholding.

Provisions affecting individuals:

- Dividend received credit changes - Sec. 201
- Gain on sale of residence after age 65 - Sec. 206
- Deduction lost for certain local taxes - Sec. 207
- Casualty and theft loss changes - Sec. 208
- Charitable contribution changes - Sec. 209
- Interest on insurance loans - Sec. 215

Accounting problems due to rate reduction and repeal of basis reduction provision of investment credit.

Massachusetts Corporation Excise:

- Current tax payments
- Emphasis on income allocation
- Treatment of Sec. 1245 income
- Imputed income - grossing up and controlled foreign corporations

Tax news from abroad

Tax news from Washington

DEPARTMENT OF ELECTRICAL ENGINEERING

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

CAMBRIDGE 39, MASSACHUSETTS

March 23, 1964

Mr. Harlan Anderson, Vice President
Digital Equipment Corporation
143 Main Street
Maynard, Massachusetts

Dear Mr. Harlan,

It is our pleasure to invite you to visit the computer facility made possible through the generous gift in 1961 of a PDP-1 machine by the Digital Equipment Corporation. There will be an informal demonstration of the capability of the system as a multiple-access computer, and several on-line applications. We will meet at the

Research Laboratory of Electronics Conference Room

Room 26-217, M. I. T.

11:00 a.m.

Monday, March 30, 1964

I look forward to the pleasure of your company.

Best regards,

Jack B Dennis

Jack B. Dennis
Assistant Professor of
Electrical Engineering

JBD:eg

CROSS & BROWN COMPANY

CROSS & BROWN COMPANY REAL ESTATE

522 FIFTH AVENUE • NEW YORK 36, N.Y. • MURRAY HILL 7-9200

March 19th, 1964

Mr. Kenneth Olsen, President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Olsen:

I read with interest the article in the latest issue of Business Week which delt with your new PDP-6 computer.

Since all major computer companies maintain either headquarters or sales offices in Manhattan, I felt that you might be interested in some office space here yourselves.

Cross & Brown Company has specialized in Manhattan office leasing for over 50 years. Through a multiple listing system we are able to offer you all available space in every office building in town.

If this matter is being considered by your company for either now or the near future, I would sincerely appreciate hearing from you.

Very truly yours,

David L. Hoffman

David L. Hoffman

C.C. Mr. Harlan Anderson

DLH/kc

charles w. adams associates inc.

142 THE GREAT ROAD • BEDFORD • MASSACHUSETTS • Area 617 275-8050

March 27, 1964

Mr. Harlan E. Anderson
Vice President
Digital Equipment Corporation
Main Street
Maynard, Massachusetts

Dear Harlan

As we discussed at some length recently, the commercial potentialities of the type of services being developed by Keydata Corporation appear quite impressive. To permit an intelligent decision on how Digital Equipment Corporation and Keydata might collaborate in the profitable exploitation of these potentialities, considerable analysis is required of the market, the hardware and software requirements, and the costs, cash flow, and expected returns. This is especially true because of the interest expressed by D.E.C. in the use of a PDP-6 rather than a smaller system, and the corollary entry into the FORTRAN computation service market.

We therefore propose that D.E.C. and Adams Associates jointly sponsor a study of the marketing, technical, and financial aspects of a possible Keydata Center built around a PDP-6 and aimed initially at two specific market areas: (1) FORTRAN, and (2) on-line invoicing, inventory and accounts receivable applications. This study would require approximately six weeks, with substantial participation by myself and our Messrs. Gilmore, Weinrebe and Weisberg, with support from our Messrs. Sternlieb, Slattery, Rousseau and Curry as well as from some of your people concerned with PDP-6 FORTRAN. Close liaison between us would be maintained by weekly meetings involving you, Ken, Jack, me and other interested parties from both companies.

The study would result in a report divided into the three parts briefly described below:

The Services and Their Market: This part would contain a description, from the user's viewpoint, of the proposed FORTRAN and invoicing capabilities, limitations and prices, as well as a summary of the typical reactions of likely prospects for such services (obtained by several direct

interviews, including those at the New England Business Equipment Exposition on April 21-23, at which Keydata will demonstrate a simplified on-line invoicing activity).

Technical Considerations: This part would include a consideration of the minimum and several alternative hardware configurations and their implications relative to the capacity for handling the two applications. It would also be discussed how time sharing would be accomplished, the difficulties likely to be encountered in developing the necessary programs, and any new hardware features that might prove especially helpful.

Plan of Attack: This would be a detailed plan for implementing the marketing, programming and equipment installation and operation, with month-by-month cash flow analysis for the first eighteen months, together with coarser estimates for the next several years.

Adams Associates normal charge for the study, based on a maximum of 50 man-days at $250, 50 at $175 and 25 at $125, would not exceed $24,375. We propose that D.E.C., as joint sponsor, contribute $10,000 toward our costs as well as the time of its people as noted above. It is understood that the intention of both parties would be to work together on the implementation of the plan if it proves to be mutually attractive; but that neither party is committed to this course of action or constrained from pursuing a similar course, either independently or jointly with others, should the decision be made that Adams Associates and D.E.C. will not do so together.

If. D.E.C. wishes to join us in this study under the conditions outlined above, you may so indicate by signing below and returning one copy of the letter to us. If your acceptance is received by April 1, the report will be planned for completion by May 11, 1964. Your $10,000 contribution will be payable in two installments, half at the end of the first three weeks of the study and the remainder upon delivery of the final report.

CHARLES W. ADAMS ASSOCIATES, INC.

by Charles W Adams, pres

Accepted for:

DIGITAL EQUIPMENT CORPORATION

by _____

date _____

CENTRO DE CALCULO
ELECTRONICO
Ciudad Universitaria
MEXICO 20, D. F.
México

He also asked me if there would not be a possibility for them to maintain it, after proper training at your facilities.

As these are questions I am not able to answer, please let me know about those possibilities or establish a direct contact with

Dr. Virgilio Beltrán.
Director
Facultad de Ciencias Físico-Matemáticas.
Universidad de Puebla.
Puebla, Pue.

In case you can come to an agreement with them, and we happen to get another PDP-5, we will also be willing to take charge of the maintenance of both machines as we have several electronic engineers and technicians already conversant with digital computers circuitry.

Looking forward to your answer, I remain

Sincerely Yours,

ING. SERGIO F. BELTRAN,
Director.

c.c. Mr. Harlan Anderson.
Digital Equipment Corporation
Maynard, Mass. U.S.A.
c.c. Dr. Virgilio Beltrán.

SFB/rgm.

March 31, 1964.

Mr. Harrison R. Morse III.
Digital Equipment Corp.
Programming Systems.
Maynard, Mass. U.S.A.

Dear Mr. Morse:

After my last letter of February 21 which I hope was received on time, we began our Mobile Electronic Computing Center (attached please find newspaper clips, unfortunately in Spanish) with courses at the University of Puebla which were sponsored by the President of this University and by the Dean of the Dept. of Mathematical and Physical Sciences (a Ph.D. in Physics from Yale Univ.)

After the courses were given, we were asked to recommend both, an analog computer for the Dept. of Chemical Sciences and a digital computer for this Dept. of Mathematical and Physical Sciences.

The intention of this last department is to alleviate the load of the rent or purchase of the digital computer through offering computing services to industry, banks, commerce and governmental agencies. The outcome, for any company that installs this computer, will be to have 25 to 30 "salesmen" eager to promote the utilization and programming of the computer all around the city of Puebla (It is almost half-a-million in population and the most important textile industry center in Latin America). As a matter of fact, I understand they already have 3 or 4 interested industries.

I consider that a PDP-5 is ideally suited for their purposes and I have passed them all the information I have about it. As it stands now, they will consider the outright purchasing if payments can be granted. Yesterday, I talked long distance with the Dean of this Department and he asked me about the possibility of arranging a down payment of Dls. 7,000 to 8,000, and the balance (up to the Dls. 27,000 of a 4K, PDP-5), in 36 monthly payments of approximately Dls. 580.00 each.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

PROJECT MAC

Reply to: Project MAC
545 Technology Square
Cambridge, Mass. 02139

Telephone: (617) 864-6900 x5851

April 3, 1964

Mr. Harlan Anderson
Digital Equipment Corporation
Main Street
Maynard, Massachusetts

Dear Mr. Anderson:

With reference to your letter of March 20, 1964, I would like to thank you for your offer to trade our PDP-1 computer for a new PDP-6.

I hope you will understand that all of what follows is subject to approval by our sponsor.

We would like to go ahead with the exchange as outlined in your letter. The machine configuration should be the one which is outlined on Page 1 (including a five microsecond 8,192-word memory on a loan basis). We understand that the net cost of the exchange is $5,700. In addition, we would like you to provide the "black box" described under Item 3 on Page 3 of your letter at an additional cost of $3,100. I understand that we can expect delivery on the PDP-6 by August 31, 1964.

I shall immediately request through the proper channels our sponsor's approval for this net expenditure of $8,800.

Sincerely yours,

R. G. Mills

Richard G. Mills
Assistant Director
for Administration
Project MAC

RGM:lms

cc: Mr. A. J. Wise

The National
Shawmut Bank
of Boston

April 6, 1964

Mr. Harlan E. Anderson
Vice President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Harlan:

Thank you, Andy, for your letter of April 2, enclosing the information from Datamation. I shall pass it along to those in the bank interested in our computer effort.

While talking with Dick Mills on Friday, I learned that he was on his way to Europe to explore new branches in England and France. Please keep it in mind that we would be most appreciative of an opportunity to assist Digital Equipment in these two areas. From first-hand experience, you are familiar with what we can do.

Very truly yours,

Lincoln E. Barber, Jr.
Assistant Vice President

LEB/mmw

CONSULAAT-GENERAAL DER NEDERLANDEN

CONSULATE GENERAL OF THE NETHERLANDS

10 Rockefeller Plaza, NEW YORK 20, N.Y.
Telex [illegible]
Telegr.adres: "[illegible] New York"

Industrial Officer
of the Ministry of Economic Affairs
Tel. CIrcle 6-1450 Room 1123

No. 64-1528/1092

April 6, 1964

Mr. Harlan E. Anderson, Vice-President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Anderson:

The Directorate General for Industrialization and Power Supply of the Netherlands Ministry of Economic Affairs has prepared a new Guide for foreign investors interested in exploring the possibilities of establishing industrial operations in the Netherlands.

Within the framework of the present industrialization policy pursued by the Netherlands Government, the establishment of foreign industries in the Netherlands takes an important place, both in the establishment of subsidiaries and in the participation in and cooperation with Dutch firms. In carrying out this policy, the Government's chief consideration is to raise the qualitative level of industry through the know-how which the chief foreign concerns selling in the Netherlands bring with them.

From our records, we learned that you have obtained our Guide previously and we feel that you would like to be informed about this new Guide adjusted to the present rules and regulations. Manufacturers still interested in investigating the possibilities of establishing themselves in the Netherlands in one way or another will receive our Guide free of charge upon request. At the same time, we would appreciate hearing from you what stage your interest has reached.

Sincerely yours,

Edward J. Alofs
Industrial Officer

EJA:mg

American Federation of Information Processing Societies

1964 Spring Joint Computer Conference

SHERATON PARK HOTEL ● WASHINGTON, D.C. ● APRIL 21-23

Reply to P. O. Box 5896 Washington, D.C. 20014

April 10, 1964

Mrs. Nancy Survilas
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Mrs. Survilas:

I regret that we have very few copies of the preliminary program available, and I am unable to fill your request for 15 copies. Interest in this year's conference has been far greater than we had anticipated. I am enclosing 2 copies of the preliminary program and 4 copies of a poster which may be of some use to you. We appreciate your interest in the 1964 SJCC and look forward to seeing some of the Boston C-E-I-R people at the meeting.

Very truly yours,

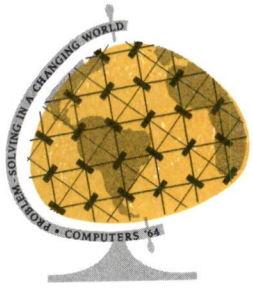
M. J. Healy

M. J. Healy, Chairman
Printing & Mailing Committee
Spring Joint Computer Conference

MJH: jbs

Enclosures

cc: H. R. Koller
Chairman, 1964 SJCC



BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.
UPTON, L.I.
TEL. YAPHANK 4-6262

REFER:

14 April 1964

Mr. R. L. Lane
Computer Applications Engineer
Digital Equipment Corp.
Maynard, Mass.

Dear Mr. Lane:

Associated Universities, Inc. is making plans to install a Programmed Data Processor-6 System at Brookhaven National Laboratory, made up of the components on the attached list.

Associated Universities, Inc. is not in a position to make a binding commitment at this time for either purchase or rental of these equipments. However, it is making application to the United States Atomic Energy Commission for the financial support which will enable it to do so. Brookhaven National Laboratory is operated under a cost-reimbursement contract with the Commission. The plan for which approval is being sought calls for installation of the system, as described in the attachment, during September 1964. The purpose of this letter is to give you advance notice in the hope that the equipments will be available when we are in a position to make a formal commitment.

Very truly yours

Clarke Williams

Clarke Williams
Deputy Director

CW/C/mlg
attach.

Programmed Data Processor-6 System

Arithmetic Processor	Type 166
16,384 Word Core Memory	Type 163C
Data Control	Type 136
Magnetic Tape Control compatible for IBM transport 729 VI	Type 516
Dual Microtape System	Type 551 Control Unit Type 555 Dual Transport
Papertape Reader	Type 760
Line Printer	Type 646

Above System mounted in trailer for operation in trailer.

102 Whitelawn Avenue
Milton, Mass., 02187
April 15, 1964

Mr. E. Fredkin, President
Information International, Inc.
200 Sixth St.
Cambridge, Mass.

Dear Mr. Fredkin:

I tried to contact Harlan Anderson of Digital Equipment Corp. regarding your activities at Information International which might be of interest to me. By means of the recent newspaper article, I became aware of your joint venture in the field of oceanography and associated applications.

My Naval Reserve and work activities have been oriented in sonar, oceanography, and ASW in general, in addition to weapons, or rather as part of the weapons systems. This may coincide with some of your requirements.

My Objectives and Qualifications are covered in the enclosed resume.

Contrary to the impressions conveyed by recent news releases, Electric Boat will not have any significant activity here in the near future; therefore, the sale and closing of the shipyard by Bethlehem Steel has caused my unemployment.

If I have not heard from you, I will contact you in about a week.

Very truly yours,

John R. George

cc: Mr. Harlan Anderson
Digital Equipment Corp.

American Management Association, Inc.

THE AMERICAN MANAGEMENT ASSOCIATION BUILDING · 135 WEST 50TH STREET, NEW YORK, N.Y. 10020
THE AMA GROVE · HAMILTON, NEW YORK

New York City
April 15, 1964

Mrs. N. Survilas
Harlan E. Anderson's Office
Digital Equipment Corporation
146 Main Street
Maynard, Mass.

Dear Mrs. Survilas:

Thank you for your letter of April 10.

We will delete Mr. O'Dea's name and refund the unused protion of this dues to Mr. Kenneth H. Olsen.

At anytime that we may be of service to you, please let us know.

Cordially,

Annalou Gokyigit

(Mrs.) Annalou Gokyigit,
Correspondent, Membership Dept.

CURRICULUM VITAE

George Patterson Moore

DATE OF BIRTH: December 19, 1932

MARITAL STATUS: Married; two children

EDUCATION: B.A. (Mathematics), UCLA, June 1954
M.A. (Mathematics), UCLA, June 1957
Ph.D. (Physiology), UCLA, January 1961

APPOINTMENTS AND FELLOWSHIPS:

Fellow, USPHS Mental Health Training Grant	6/57 - 7/60
Postdoctoral Fellow, Giannini Foundation, UCLA	7/60 - 6/61
Assistant in Physiology, UCLA	10/60 - 6/61
Instructor in Physiology, UCLA	7/61 - 6/62
Assistant Professor in Physiology, UCLA	7/62 - Present
National Academy of Science - National Research Council Postdoctoral Fellow, MIT	7/63 - 6/64
Teaching Staff, Special Resident Training Program, Department of Head and Neck Surgery, UCLA	1/62 - Present
Visiting Lecturer in Animal Physiology, University of California, Davis Campus	8/61

PROFESSIONAL ACTIVITIES:

Workshop participant, UCLA Symposium on the Conceptual Bases of Communication Sciences	10/62
Member, Teaching Staff, American Physiological Society Workshop on Homeostasis, Santa Barbara, California	7/63

TEACHING EXPERIENCE:

(1)	"Introduction to the Structure and Function of the Nervous System for the Physical Scientist" (UCLA Extension)	Fall 1961 Spring 1963
(2)	Neural Signals and Systems (UCLA Graduate Course)	Fall 1962
(3)	Physiological Systems (UCLA Graduate Course)	Fall 1964
(4)	Basic Neurology (UCLA Medical School)	1961 - Present
(5)	Mammalian Physiology (UCLA Medical School)	1961 - Present

MEMBERSHIPS:

Sigma Xi
American Physiological Society (Associate Member)
Brain Research Institute, UCLA

RESEARCH GRANTS:

USPHS General Research Support Grant, "Neuroelectric Signals in the Central Nervous System," 1/1/62 to 12/31/62, $2,165.
National Science Foundation, "Analysis of neuroelectric signals in areas of sensory interaction in the central nervous system," 1/1/62 to 12/31/63, $17,200,
U.C. Committee on Research, "Electrophysiological investigation of the organization of the reptilian cortex," 1962, $500.

CONSULTING APPOINTMENTS:

Aerojet-General Corporation, Azusa, California
Systems Technology, Inc., Inglewood, California

1. Moore, G. P. and R. D. Tschirgi. Bilateral organization of the somatic afferent system in lower vertebrates. Physiologist 3:117, 1960. (Abstract).

2. Moore, G. P. and R. D. Tschirgi. Nonspecific responses of reptilian cortex to sensory stimuli. Exper. Neurol. 5: 196-209, 1962.

3. Moore, G. P. Input-output analysis of spontaneous activity in ganglion cells of Aplysia. Fed. Proc. 22:220, 1963.

4. Perkel, D. H., G. P. Moore, and J. P. Segundo. Continuous time simulation of ganglion nerve cells in Aplysia. ISA Biomedical Sciences Instrumentation Symposium, June 1963, Los Angeles. (in press).

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6. Segundo, J. P. and G. P. Moore. Functional significance of neuronal spike discharge parameters. First Conference on Mechanisms of Control in the Nervous System. Sponsored by the Sociedad Mexicana de Ciencias Fisiologicas. Willahermosa, Mexico, April 1963. (in press).

7. Segundo, J. P. and G. P. Moore. Organization of neuronal groups inferred from analysis of spontaneous activity. Physiologist 6:272, 1963. (Abstract).

8. Segundo, J. P., G. P. Moore, L. J. Stensaas, and T. H. Bullock. Sensitivity of neurons in Aplysia to temporal pattern of arriving impulses. J. Exp. Biol. (in press).

9. Moore, G. P. and Simon, W. Digital computer analysis of intracellular microelectrode recordings of neuronal activity. 8th Annual Biophysical Society Meeting, Chicago, Feb., 1964. (Abstract).

10. Linde, L. M. and G. P. Moore. Dysautonomia - A disease of the reticular system. (Submitted for publication).

11. Perkel, D. H., G. P. Moore, J. P. Segundo, T. H. Bullock, and J. Schulman. Stable modes of activity in pacemaker neurons with "open-loop" synaptic input. (Submitted for publication).

INVITED PAPERS:

"Models of Neural Systems." AAAS Symposium on Models in Biology, Cleveland, December 1963

"Statistical Models of Neural Discharge." Two lectures in the RAND Corporation Series, "Quantitative Aspects of Neurophysiology." Santa Monica, California, December 1963.

UNIVERSITY OF CALIFORNIA MEDICAL CENTER
LOS ANGELES 24, CALIFORNIA

SCHOOL OF MEDICINE
DEPARTMENT OF PHYSIOLOGY

April 15, 1964

Mr. Ken Olson
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Olson:

On behalf of the Department of Physiology and the School of Medicine of the University of California at Los Angeles, I wish to apply for an educational discount on the purchase of one of your forthcoming PDP-8 computers.

This computer would be available to members of the Departmental faculty for use in data processing and for various computational and other on-line uses during experiments. The research interests of our faculty cover a wide spectrum of interests such as cardiovascular physiology, cellular physiology, neurophysiology, etc.

Moreover, it is our expectation that all interested graduate students and postdoctoral personnel will have an opportunity to learn to use the computer and employ it in the context of their research. That is, it will be used in both an educational and purely research context. In addition, because of its flexibility, we plan to use the computer for regular classroom teaching and for demonstration purposes.

The Department has appointed me to be responsible for the computer and its use by the members of the Department staff. In view of my experience in data processing, and my recent association with the MIT Center Development Office, I will be in a position to advise and assist faculty and students in the use of the computer. Naturally, we will welcome the opportunity to share our experience and programs with others who are using similar instruments.

Purchase of this computer has been made possible through an NIH Institutional Grant to the UCLA School of Medicine, and we are applying for a discount in order that the price of the computer will

more nearly match the funds from that grant which have been allocated for this purpose. We would like the discount to apply to a standard PDP-8 computer with ASR teletype.

Sincerely,

George Moore

George Moore, Ph.D.
Assistant Professor

APPROVED:

Victor E. Hall
Chairman

APPROVED:

Office of the Dean
School of Medicine

GM:gh
cc: Dean's Office
School of Medicine

April 17, 1964

COPY

Dr. W. Driscoll
Director of Research
Boston College
140 Commonwealth Avenue
Boston, Massachusetts

Dear Dr. Driscoll:

Thank you for allowing Mr. Anderson and myself to visit you yesterday to discuss the PDP-6 Computer.

Enclosed are copies of the Programmed Data Processor-6 Handbook, the PDP-6 System Description's brochure and MACRO 6 Assembly Program. Would you please forward two sets of the enclosures to Mr. Kenneth Siberz.

We are now looking forward to your visiting us and I shall contact you during the week of 27 - 30 April to arrange for your visit here during the 1st week of May.

Sincerely yours,

R. L. Lane
Computer Applications Engineer

RLL:oh
Enclosures: F-61, F-65,
MACRO 6

The National Cash Register Company

Dayton 9, Ohio

April 17, 1964

Mr. Harlan E. Anderson
Vice President
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Mr. Anderson:

Hope to see you at the Spring Joint Computer Conference, April 21-23.

We are showing the 100 CPM reader (EM-D2), static card reader (EM-D3), 1000 CPS paper tape reader (EM-A2), 600 CPS paper tape reader (EM-A1), 120 CPS paper tape punch (EM-B2) and 900 LPM high speed printer (EM-C1).

This will be your opportunity to see all this equipment first hand, and if you like we'll even look inside.

Very truly yours,

D. L. Scanlon

D. L. Scanlon
Special Representative
Original Equipment Manufacturer
Sales Division

201 234 1769

April 24, 1964

Digital Equipment Corp.
Maynard
Massachusetts

Dear Mr. Olsen:

It was indeed a pleasure to meet with you and discuss A.M.I. screen printers and automatic parts feeders and I want to take this opportunity to thank you for your order on the MA 12 screen printer.

We are listing below the approximate prices of the dice feeding, orienting, and transfer unit as seen at the show and the dice feeding, orienting, and inspection unit shown in our catalog.

Dice feeding, orienting,& transfer	$1187.50
Dice feeding, orienting,& inspection	$1100.

A.M.I. also will build to order feeding and orienting systems for other specific parts as desired and quotes will be furnished on request and receipt of samples.

We wish to thank both you and Mr. Anderson for your interest in A.M.I. equipment. If we can assist you in any way or answer further questions please do not hesitate to call on us.

Sincerely,
SWENSON SALES

Arthur Swenson, Jr.

AS/fs
cc Mr. Harlan Anderson

OREGON STATE UNIVERSITY
CORVALLIS, OREGON 97331

OFFICE OF THE PRESIDENT

April 28, 1964

Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Gentlemen: Attention: Mr. Robert Lane

Oregon State University has applied to the National Science Foundation for a $500,000 grant, most of which would be used for the purchase of a PDP-6 computer system. Assuming favorable action by the Foundation, we intend to order the following equipment from Digital Equipment Corporation:

1.	Arithmetic Processor Type 166	$176,100
2.	Core Memory Module (16,384 words) Type 163C	126,000
3.	Magnetic Drum Type 236 and Drum Processor Type 167	110,000
4.	16-line Multiplexer: Data Communication System Type 630	23,000
5.	Data Control Type 136	10,000
6.	Magnetic Tape Control Type 516	15,000
7.	Microtape Control Type 551	14,000
8.	Dual Microtape Systems (3) Type 555	22,200
9.	Magnetic Tape Transport Type 70	30,400
10.	High-Speed Paper Tape Reader and Control Type 760.	9,000
11.	High-Speed Paper Tape Punch and Control Type 761 .	5,500
12.	High-Speed Line Printer and Control Type 688	47,500
	Total Before Discount	$588,700

We understand that the Corporation will probably grant us an educational discount of 20% on all of these items, reducing the cost to $470,960. We also understand that shipping charges are to be paid by us.

If the grant is approved, it appears likely that funds would be made available soon after January 1, 1965. We could take delivery at that time.

Sincerely,

M. Popovich
Dean of Administration

MP:T
cc: Dr. Lonseth

H.A.

~~Ken Olsen~~
~~Wm Hindle~~
~~Dick Mills~~

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May 7, 1964

Miss Dorothy E. Rowe, Treasurer
American Research and Development Corporation
The John Hancock Building
Boston, Massachusetts 02116

Dear Miss Rowe:

Thank you for confirming the proposed contents of Digital Equipment Corporation's initial annual report which is to be published, as soon as possible, after year end results have been determined.

As you already know, as a routine procedure, the Exchange urges all listed companies to present financial statements on a comparative basis. After considering the difficulties you outlined in your recent letter, the Exchange will not object to non comparative reporting for 1964. However, as you indicated, all future Digital Equipment Corporation annual reports will be presented in such comparative form.

We appreciate your cooperation in this matter and hope that we in turn may be of future assistance to you.

Very truly yours,

D E Hughes

D. E. Hughes
Representative

DEH:ig

1 May 1964

Mr. D. E. Hughes, Representative
New York Stock Exchange
Department of Stock List
Eleven Wall Street
New York 5, New York

Dear Mr. Hughes:

As you requested, this will confirm to you in writing that ARD will use its best efforts to cause Digital Equipment Corporation to publish an annual report for its fiscal year ending June 29, 1964.

You have asked that DEC publish a balance sheet, income statement and surplus reconciliation, all on a comparative basis, for fiscal 1963 and 1964. To require comparative figures at this time is in effect causing the company to publish a report for the past two years.

May we respectfully request that you reconsider your request that comparative statements be included? DEC, for competitive reasons, has not chosen to date to disclose publicly its financial status and did not publish a report for fiscal 1963, since you did not request us to do so at the time.

The New York Stock Exchange Company Manual states that the Exchange does not prescribe the form for annual financial statements of listed companies. Since this will be the first published report of DEC, a privately held company, we feel that comparative figures should not be required. However, in keeping with good reporting practices, we would anticipate that subsequent reports of DEC contain this information.

We should very much appreciate hearing from you further concerning your wishes in this matter. Thank you.

Sincerely yours,

Dorothy E. Rowe
Treasurer

DER:cc

1er. CONGRESO LATINOAMERICANO

SOBRE
LA COMPUTACION ELECTRONICA
EN LA
ENSEÑANZA PROFESIONAL

F R O M 3rd - 4th A U G U S T
1964

May 4th, 1964.

HARLAN E. ANDERSON
VICE-PRESIDENT
DIGITAL EQUIPMENT CORPORATION
146 MAIN STREET
MAYRARD, MASSACHUSETTS
TWINCAKS 7-8822, AEREA CODE 617
U.S.A.

Mexico's National Computing Center, aware of the increasing importance that the applications of Computers - have had to academic life and to the industrial development of Latin-American countries has the pleasure to convoke -- universities, government agencies, scientifique research institutions, commercial and industrial concerns, and all persons interested to the First Latin-American Congress on Electronic Computation in the Teaching Profession.

The main purposes of this Congress are the following:

a)- To contribute to the study and solution of those problems in Latin American countries for which computers and programming techniques are most needed.

b)-To encourage the advancement of electronic computation in Latin-American countries as a contribution to their development.

c) To examine the problems of Latin-American countries which require the use of Computers to determine the fields of applications should be emphasized on the University level.

d) To stimulate interest in electronic computation.

e) To establish a Latin-American association on electronic computation.

#...

For further information, please write:

CENTRO NACIONAL DE CALCULO
UNIDAD PROFESIONAL, I.P.N.
MEXICO 14, D.F.

Very truly yours,

MBarberena V

MIGUEL A. BARBERENA.
Vice-President.

H Anderson

May 15, 1964

Professor D. Maeder
Ecole de Physique
Universite de Geneve
Boulevard D'Yvoy 32
Geneva, Switzerland

Dear Dr. Maeder:

This is in answer to your letter of February 25, 1964, written to Mr. Harlan Anderson concerning our PDP-4 Computer. It has been decided that Digital Equipment Corporation will grant to The University of Geneva a 20% educational discount on a PDP-4 system. This discount is applicable to the entire system with the exception of IBM compatible tape drives, automatic line printers, card readers and drums. These items are non-discountable and would be billed at list price. I suggest that you contact Guenter Huewe of our Munich office for a formal quotation on this system.

It may also interest you to know that DEC has recently announced a new computer, the PDP-7. I am including a specification brochure on this computer, and a full price list will be sent to you shortly when available. I can tell you, however, that the price of a basic operating system is in the order of $72,000 list price and the 20% discount would apply. Specific delivery time cannot be quoted at the moment, but present schedules indicate a delivery time of approximately 7 months. More information about this computer will be sent to you as it is available.

Sincerely yours,

DIGITAL EQUIPMENT CORPORATION

Jonathan Fadiman
Manager, International Marketing

JF:nlz

Enc. - F-71

cc: ~~Guenter Huewe, DEC Munich~~
Harlan Anderson, Vice President, DEC

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May 19, 1964

Mr. Harlan E. Anderson, Vice President
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Andy:

I want to thank you for the generous use of your time yesterday on our conducted tour. I must say I was most impressed with the way you handle your facilities as well as your product lines.

We at Hayden, Stone would be delighted to have the opportunity to assist you when you require it in either the direction of a private placement, with carefully selected individuals or institutions, of your securities or in a public offering. At such time, we would be prepared to make a presentation to you of the course or courses which we believe might be most advantageous to you.

We will look forward to keeping in touch, and I do want to extend our invitation for you or Ken Olsen to visit our office when you are in Boston.

Again, many thanks for your courtesy. Looking forward to seeing you soon, I remain

With best wishes,

David B. Stone

DBS:BG

Copy to Bob Bemer

Harlan Anderson

MAY 28 1964

Telephone 92 0919

digital

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

Colman House, 89 Berry Street, North Sydney. Cable Address: "DIGITAL," Sydney

A Subsidiary of DEC Massachusetts

25th May, 1964.

Mr. Jon Fadiman,
Digital Equipment Corporation,
MAYNARD. MASS,
U.S.A.

Dear Jon,

As you will know by now, I am trying to finalise the sale of a PDP-5 to Prince Henry Hospital. Dr. Preswick expects that the Hospital will pay the maintenance on the computer, and that all of his £10,000 p.a. can go towards purchase of equipment. The purpose of this letter is to unearth some mysteries in the Standard DEC Maintenance Contract. I have already mentioned this difficulty to you, and I would now like a ruling from you with Andy's support regarding how the matter can be tackled here in Australia.

First of all, these is the following severe inconsistency in the standard document on maintenance contract. For 5% of the list price of a PDP-5 we will maintain the machine under Plan No. 2 for 24 hours a day, 7 days a week. Based on a selling price of $27,000 this gives a charge of $1,350 for around-the-clock service. If, therefore, we charge the minimum of $2,400 per year, the customer is surely entitled to around-the-clock service. We would prefer in general not to offer this kind of service, but I believe we would have to if we make the standard minimum charge for servicing the equipment.

I am most reluctant to give the impression that we are making high maintenance charges simply because we only have a few machines installed. This appears to be an argument which IBM are using against us for the purpose of high-lighting the embryonic state of our organisation in Australia. A high maintenance charge also suggests that our equipment is unreliable.

Are these maintenance charges fixed and firm, or am I at liberty to make compromise terms which may reduce our profitability in the early years

MAY 28 1964

data

Mr. Jon Fadiman.

25th May, 1964.

in Australia but contribute to our more rapid establishment in terms of the number of installations we make. Since the maintenance contract is re-negotiable each year we still would retain flexibility if the charges proved to be too much one way.

To make a sensible decision on this matter it seems we should know what proportion of the maintenance charge should be credited towards replacing parts. It has been my experience that maintenance charges contained a small component for spare parts and a large component for salaries and an equally large component for overhead. These relative proportions should be known now, and if not, should be estimated now and verified with field experience.

Would you, therefore, be able to supply the following:

1. Percentages of the maintenance charge which result from:

    a) Replacement of parts,
    b) Direct labour and travelling costs,
    c) Overhead.

2. Would you be able to advise if I could set a maintenance charge anywhere between 3% and the "minimum" of $2,400 per year as seems appropriate to local conditions?

3. Is the Standard Maintenance Contract being modified to remove the inconsistencies mentioned above?

Best wishes,

R. G. SMART,
General Manager.

RGS.JD70

H. Anderson

DECUS MAY 25 1964

SYSTEMS RESEARCH LABORATORIES, INC.
500 Woods Drive
Dayton 32, Ohio

May 21, 1964

Mrs. Elsa Newman
DECUS
Digital Equipment Corporation
Maynard, Massachusetts

Dear Elsa,

Systems Research Laboratories, Inc. and the Biodynamics & Bionics Division, Aerospace Medical Research Laboratories, Wright-Patterson Air Force Base, jointly invite the members of DECUS to meet in Dayton, Ohio for the fall symposium. The conference will be held at a downtown hotel. We suggest September 24 and 25 as dates for the conference; if there is some disadvantage to these dates or particular advantages to other dates, please inform us so that we may change them.

May we suggest "Scientific Applications" as the general theme with "Application in Medicine and Biology" as a topic for one of the sessions? We will be glad to arrange a panel on the latter topic, the panelists consisting of various DECUS members as well as other experts.

Luncheons will be arranged on both days of the meeting, and an informal cocktail party is planned on the evening of the first day for those wishing to attend. Please come expecting a productive and enjoyable conference.

Sincerely,

SYSTEMS RESEARCH LABORATORIES, INC.

William A. Fahle,
Project Engineer

WAF/nm

Digital Equipment Manufacturer To Open Research Park Office

An East Coast manufacturer of high-speed digital computers will occupy 1,800 square feet of space in a new rental facility moving toward completion in Ann Arbor's 210-acre Research Park.

Stanley C. Olson, general sales manager of Digital Equipment Corp. of Maynard, Mass., said in Maynard today that Digital Equipment will open a sales and service unit July 1 in the rental facility.

Olson did not rule out the possibility that Digital Equipment might create a research-development unit here in the future.

He believes that scientific skills available in Ann Arbor for development work and computer programming techniques will be valuable to Digital Equipment, when utilized.

The concern, which has an annual sales volume of more than $10,000,000 and an employe force of 600, manufactures digital computers priced between $24,000 and $500,000 each. Largest of the all-transistorized units is capable of storing 250,000 six-character words and can perform 600,000 additions a second.

Three of Digital Equipment's computers are on the University campus and Olson said that the Michigan market holds further promise for his concern.

Digital Equipment's sales-service office here will join exisiting ones in Pittsburgh, Washington, D. C., Chicago, San Francisco, Los Angeles, Boston, Munich, Germany; Paris, France and London, England, which are operated by Digital Equipment as wholly-owned subsidiaries.

The concern is gearing to start up manufacturing operations in Ottawa, Ont., Canada.

A former scientist of the California Institute of Technology's Jet Propulsion Laboratory—Robert Oakley of San Francisco, Calif.—will be in charge of the unit here. In the meantime, a company service representative was moved to Ann Arbor yesterday. He is Richard Edwards.

Digital Equipment is leasing the space from the owner of the 24,000-square-foot rental facility, Research Facilities for Michigan, Inc.

Earlier, Detroit Testing Laboratory announced it would occupy 6,000 square feet in the rental facility.

Other research-development units are known to be considering the rental facility to start up research units and will be announced as leases are negotiated.

MOUNTED NEWSBOY: Wilbur Winkle Jr., 12, of 20296 Sherwood Rd., Augusta Township, now delivers his subscribers their copies of The Ann Arbor News by pony. The youthful newsboy earned the money for the pony, which he bought at auction, from his paper route.

Hearings On Rezonings Draw Large Turnouts

Almost 70 persons filled the Ann Arbor Township Hall this week when the Ann Arbor Township Planning Commission held hearings on two proposed rezonings.

One of the proposals would permit the establishment of private recreational facilities at 3250 E. Huron River Dr., present location of the Huron River stables adjoining Huron Hills Municipal Golf Course.

The other would allow the Killins Gravel Co. to set up a portable transit-mix concrete plant at a gravel pit the company owns at Earhart and Joy.

Petitions in oppositon to both rezonings were submitted to the commission.

Attorneys for the recreational club said immediate plans were for tennis courts and swimming pools. The proposed rezoning, however, would also allow pos-

Stage, Screen

Today's Playbill

Stage

Lydia Mendelssohn — "The Glass Menagerie." Performance at 8:30 p.m. (Matinee Thursday, 2:30 p.m.)

Screen

Michigan — "The Pink Panther." Feature at 1:05, 3:05, 5:05, 7:05 and 9:10 p.m.

State—"Advance to the Rear." Feature at 1:15, 3:15, 5:15, 7:20 and 9:25 p.m.

Campus — "The Servant." Shows at 7 and 9 p.m.

Scio Drive-In—"Under the Yum-Yum Tree" and "The Strippers." Open 7:30 p.m., shows continuous from 8 p.m.

Ypsi-Ann Drive-In—"Charade" and "Of Love and Desire." Open 7:30 p.m., shows continuous from 8 p.m.

New Tomorrow

Screen

State—"Act One." Feature at 1:05, 3:05, 5:05, 7:05 and 9:10 p.m.

Folk Song Groups Vying At Olivet

The University's "Huron River Ramblers" folk singing student group and "The Prophets Four" from Eastern Michigan University will be among groups competing in the Michigan Intercol-

APPLIED DYNAMICS INTERNATIONAL
a division of **APPLIED DYNAMICS, INC.** • 2275 Platt Road • Ann Arbor, Michigan 48104 • Tel. 313-665-3601 • Cable COMPUTERS • TWX 313-665-6082

May 25, 1964

Reference. JDK #550

Mr. Harlan Anderson
Digital Equipment Corporation
Maynard, Massachusetts

Dear Andy:

As promised during our telephone conversation last week I have enclosed a clipping from the Ann Arbor News which covers the DEC-Ann Arbor office.

Joe Young from NASA Langley Field visited us last Saturday to discuss several AD-256 Computers. This is the chap I mentioned to you by telephone about one month ago who is interested in obtaining a large hybrid facility. They currently have some 8 EAI computers, a TRICE, a 7094, etc. I was disappointed to learn from Joe that no one from DEC has contacted him yet. I gave him some literature on the PDP-6 but I am sure that your sales engineers could do a much better job of selling the PDP-6 than I can!

Will you please send me 5 copies of literature on your PDP-6, PDP-7, PDP-5 (3 bay), and any summary of software programs in the DEC library.

I hope you and Lois have a wonderful time in Europe.

Sincerely,

Jerry

J. D. Kennedy
President

JDK:cn
Encl:

THE PRINCETON CLUB OF NEW YORK
15 WEST 43RD STREET
NEW YORK 36, N. Y.

May 28, 1964

Mr. John A. Shane
1600 Beacon Street
Brookline 46, Massachusetts

Dear Mr. Shane:

Mr. Jenkins, our former treasurer, has asked me to respond to your letter of May 15. For your information we are converting back to coventional accounting equipment from the very complex electronic data processing that we have struggled with over the past fifteen months. When we complete this conversion we should be able to handle our members' accounts quietly, efficiently, and accurately, as we have for so many years in the past. Within the next four or six weeks we will be able to return a member's vouchers within a day or two of receiving the remittance. Although we would utilize a system of duplicate vouchers, the original of which would be mailed to the member with his statement, we did this in the old Club and found that it is a bit impractical from the standpoint of increased handling and greatly increased postage costs. This is particularly true since use of the Club involves many more transactions per month than such as department stores.

These changes, however, should give the information the member needs promptly.

Sincerely yours,

Raymond M. Adams
Manager

RA:cd

H. ANDERSON

UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 4

The College

DEPARTMENT OF PHYSICS

June 2, 1964

Mr. Robert Lane
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Lane:

We wish to inform you of the intention of the Physics Department of the University of Pennsylvania to purchase a PDP6 computer from the Digital Equipment Corporation. We are currently initiating a request for AEC approval for obtaining the necessary funds, and a firm purchase agreement is contingent upon such approval. We hope to obtain the necessary decision by October 1, 1964. If this discussion should prove favorable, we would appreciate a delivery of the PDP6 in January or February of 1965.

We are interested in a configuration which includes the following components:

1.	2 # 163B	16k Core Memory.
2.	1 # 166	Processor, plus # 162 fast memory.
3.	2 # 570	Magnetic Tape Transports, IBM Compatible.
4.	1 # 516-521	Magnetic Tape Controller.
5.	3 # 555	Dual Microtape Drives.
6.	1 # 551	Microtape Controller.
7.	1 # 167	Input-Output Controller.
8.	1 # 646	Printer.
9.	1 # 461A	Card Reader.
10.	1 # 136	I/O Word Assembler
11.	1 # 346	Display Unit (Later Delivery).

In addition, a device to permit communication over telephone lines will be requested. A further description of this requirement will be supplied to you by Dr. Garfinkle in a separate letter.

It is our understanding that the PDP-6 system will be purchased through the AEC quantity discount plan which we anticipate will permit us a 24% quantity discount.

Sincerely,

James Niederer

cc: D. Garfinkle
c: W. Selove

HER

digital equipment corporation
MAYNARD, MASSACHUSETTS
TWinoaks 7-8822 TWX MAYN 816

June 5, 1964

The Reverend S. J. Besuszka, S.J.
Director of Mathematics Institute
Boston College
Commonwealth Avenue
Boston, Massachusetts

Dear Reverend Besuszka:

This will confirm our discussion of May 22, 1964 concerning a PDP-6 computer for the Boston College Computation Center.

The initial configuration which we discussed is as follows:

Item 1.	Type 166-626 Arithmetic Processor	$146,100
Item 2.	Type 161D Core Memory (5 μsec. 16,384 words)	85,000
Item 3.	Type 136 Data Control	10,000
Item 4.	Type 551 Micro Tape Control	14,000
Item 5.	Type 555 Dual Micro Tape (4 @$7,400 each)	29,600
Item 6.	Type 646 Line Printer (300 lpm)	30,000
Item 7.	Type 461 Card Reader (200 cpm)	16,500
	TOTAL	$331,200

On the basis that the above equipment will be used principally for educational purposes, DEC is pleased to make an educational contribution of 15% on Items 1–5. If Boston College is willing to permit Digital Equipment Corporation the use of any instructional material in modern mathematics prepared by Boston College and yourself, we will be pleased to supplement the contribution by 5% on Items 1–5. Assuming this latter to be acceptable to you and Boston College, the net price of the equipment would be $274,260 f.o.b. Maynard, Mass.

If it is the desire of Boston College, the equipment may be paid for over a five year period as follows:

Payment Terms

1st Payment	$50,000.00	on delivery and acceptance of the equipment.
2nd Payment	69,520.60	
3rd Payment	66,156.70	
4th Payment	62,792.80	
5th Payment	59,428.90	

The above payment schedule includes simple interest at 6% of the unpaid balance.

Warranty

The DEC Standard Warranty will apply to this procurement; i.e.

> All of the equipment quoted herein is guaranteed to be free from design and manufacturing defects for a period of six (6) months following the date of delivery and/or acceptance (see below). Any component which fails during this period will be repaired or, at DEC option, replaced. This warranty does not cover components which have been modified without DEC approval or which have been subjected to unusual physical or electrical stress. Upon expiration of the warranty, system maintenance service is available from DEC on a contract or per call basis.

During the six months warranty you may decide what level of maintenance you desire. For budgetary purposes, assume that an annual on call Maintenance Contract, including labor and parts, for 8 hours/day, 5 days/week is $10,000.

Delivery will depend on when an order is placed, but assuming that this is done within the next 30 days, it could be assured for January 1 or soon thereafter.

Training

Programmer training courses are available at no charge for any reasonable number of programmers.

Expansion

Some desirable expansions of the initial configuration shown above are:

Item 1.	Type 163C Core Memory (2 μsec, 16,384 words)	$126,000
Item 2.	Type 162 Fast Memory (0.4 microsecond 16 words)	30,000
Item 3.	Type 516-520 Tape Control	18,000
Item 4.	Type 50 Tape Drive (IBM Compatible)	18,000

The educational contribution will be extended toward Items 1-3 thus increasing the total system cost by $157,200.

Multi User Stations can be added at an approximate price of $6,000 to $8,000 per station depending upon type and quantity desired.

This would provide Boston College with one of the most outstanding university computer installations in the country. We are enthusiastic about your plans and would be pleased to cooperate with you.

Concerning your summer class which begins June 29th, we would be pleased to loan you two PDP-5 computers for 8 weeks commencing about 20 June. I have asked Mr. Stephen Mikulski to contact you about this to make detailed arrangements. This machine is an ideal one for a group such as you plan to have. Machine language programming using the PAL assembly system is available with instructional material. Near the end of your six week class we may be able to provide some FORTRAN capability in addition. This loan is, of course, at no charge or obligation to you.

Sincerely,

DIGITAL EQUIPMENT CORPORATION

R. L. Lane

RLL:ncs

PERSONAL & CONFIDENTIAL

151 Havilands Lane
White Plains, N.Y.
April 14, 1964
Tel: 914-949-9574

Mr. Harlan Anderson, V.P.
DIGITAL EQUIPMENT CORP.
146 Main Street
Maynard, Mass.

Dear Mr. Anderson:

Since 1960, I have been (and still am) involved with the marketing and future planning of computer oriented systems for automation within the Graphic Arts industry. I believe I could help D.E.C. obtain a significant amount of revenue from this large new market.

If D.E.C. has any interest in entering this field of endeavor, I suggest a confidential talk to see if there is a mutual desire to progress further.

Please....I depend upon your confidential handling of this letter to ensure my present situation.

Sincerely,

Wm. H. Mestler

Wm. H. Mestler

June 2, 1964

COPY

Mr. William H. Mestler
151 Havilands Lane
White Plains, New York

Dear Mr. Mestler:

Thank you for your letter of April 14 concerning your interest in computers in the Graphic Arts industry. We are generally interested in this field; however, it is so large that it is difficult to tell from your letter if there is any mutual area within it between you and Digital Equipment. Might I suggest that if you are in the Boston area sometime in the future, you visit our factory and we could show you what we are doing. Any written information about your own experience in this area would of course be helpful to us in assessing whether there is any mutual interest.

Thank you for writing to me about this and I look forward to meeting you sometime in the future.

Sincerely,

Harlan E. Anderson
Vice President

HEA:ncs

P.S. In case you have not seen it, I am sending you some samples of our current literature.

Enc: PDP-5 Brochure
Type 340 Brochure
F-61

June 9, 1964

COPY

Mr. William H. Mestler
151 Havilands Lane
White Plains, New York

Dear Mr. Mestler:

You mention in your letter of June 8 to Mr. Anderson that you intend to call him during the week of June 15th, may I recommend that you postpone your call until after June 29th as Mr. Anderson is vacationing in Europe until that time.

If you feel you would like to schedule a tentative time now, or if I could send you further information, please feel free to contact me.

Sincerely,

(Mrs.) N. Survilas, Secretary
to Harlan E. Anderson, Vice Pres.

ncs

151 Havilands Lane
White Plains, N.Y.
June 8, 1964

Mr. Harlan E. Anderson
DIGITAL EQUIPMENT CORP.
146 Main St.
Maynard, Mass.

Dear Mr. Anderson:

Thank you for your June 2 reply to my enquiring letter.

I will be at the Westprint/ANPA Conference all this week (in Los Angeles) so I will call you during the week of June 15th to arrange a suitable time for my visit with you.

Of necessity I have kept things general, reasons which I will discuss with you in our meeting. Also at this time I expect to discuss "why" and more important "how" to obtain a major share of new computer systems to be sold in the Graphic Arts field over the next 10 years.

I look forward to seeing you soon.

Sincerely,

Wm. H. Mestler

Wm. H. Mestler

WHM:m

June 9, 1964

Centro Nacional de Calculo
Unidad Profesional, I.P.N.
Mexico 14, D.F.

Attn: ING. Miguel A. Barberena

Muy Señores Míos:

Les damos nuestras gracias por su aviso del CONGRESO LATINO-AMERICANO sobre LA Computación Electrónica en la Enseñanza Profesional que tendrá lugar el 3 - 4 Agosto 1964. Les ruego que nos envien, lo mas pronto posible, el programa y detalles pertinentes.

Digital Equipment Corporation tiene varias computadoras que sirven admirablemente en aplicaciones de ciencia y enseñanza técnica y médica.

Recientemente La Sociedad de los Dueños (DECUS) de las computadoras Digital tuvieron una conferencia en la qual hubo discusión sobre el uso de computadoras en la ensenanza. Les enviamos ejemplos y literatura en ésta. Si desean más detalles les ruego que nos escriban.

Esperando recibir noticias de Uds. quedo su afma. y S.Sa.

Elsa Newman

Elsa Newman (Mrs.)
DECUS Secretary

EN;ajc
Enclosures

cc: Harlan Anderson

HARVARD MEDICAL SCHOOL ◆ MASSACHUSETTS GENERAL HOSPITAL

DEPARTMENT OF PSYCHIATRY

Massachusetts General Hospital
Fruit Street, Boston 14

June 17, 1964

Mr. Jerry Moore
Digital Equipment Corporation
Maynard, Massachusetts

Dear Jerry:

This letter is to confirm our telephone conversation of last week. It is my understanding that my grant application to U.S.P.H.S. of March 1, 1964, has received favorable recommendation from the scientific review board and is pending final approval of the NIMH council on July fifteenth. Final official approval is dependent on this council where considerations other than scientific --geographic, budgetary, etc. are important-- but, in general, it acts to confirm the study section's recommendations. If approval is granted, funding is officially dated September 1, 1964. At that time, I plan to purchase a PDP-7 as we have discussed at length.

In the meantime, I have requested $9,000.00 (to be decided on June twenty-second) to cover rental costs in the interim, realizing that with your press for sales that continued use of the machine gratis is an imposition on DEC's already generous contribution to our scientific development. Since I feel that we are contributing some amount to the bio-medical community's awareness of DEC's equipment and virtues, it seems likely that this generosity has not been without mutual benefit. I hope that there is some feeling at DEC for this reciprocal dialogue, for there are a number of areas of development in biomedical data processing which we feel can be fruitfully explored with interested and competent engineering backup. Perhaps when we can graduate from the mooching position, these might be explored more fully than has been possible to date.

Sincerely,

Frank

Frank R. Ervin, M.D.
Director, Stanley Cobb Laboratories
for Psychiatric Research

FRE:CH

PUBLIC RELATIONS BOARD OF NEW ENGLAND
29 COLUMBIA ROAD • MARBLEHEAD, MASS. 01947

AREA CODE 617
BOSTON 593-1323
June 17, 1964

Mr. Harlan Anderson
Digital Equipment Corp.
Maynard, Mass.

Dear Andy:

I'm sorry that our professional association is at an end. I do feel that there are still a number of things DEC should be doing in the way of public relations, and that you might have availed yourself better of my services. In any case, I will see possible stories in Time and Fortune through, since both publications wish to have me help them.

If you are free on ~~Monday, June 22~~ Tuesday, June 30 in the a.m., I'd like to spend a few minutes with you.

Cordially,
Chip
F.N. Karmatz

APPLIED DYNAMICS INTERNATIONAL
a division of APPLIED DYNAMICS, INC. • 2275 Platt Road • Ann Arbor, Michigan 48104 • Tel. 313-665-3601 • Cable COMPUTERS • TWX 313-665-6082

June 26, 1964

Reference. JDK #653

Mr. David B. Denniston
Digital Equipment Corporation
1259 Route 46
Parsippany, New Jersey 07054

Dear Mr. Denniston:

Thank you for your letter of June 19th concerning the Rutgers University PDP-5. I have sent your letter to our Product Manager, Mr. Charles R. Moores, who may be in touch with you concerning the system.

Again, thank you for responding to my discussion with Mr. Anderson.

Sincerely,

J. D. Kennedy
President

JDK:cn
cc: C. R. Moores

To: HARLAN ANDERSON

COPY

June 19, 1964

Mr. Jerry Kennedy
Applied Dynamics
2275 Platt Street
Ann Arbor, Michigan

Dear Mr. Kennedy:

Mr. Harlan Anderson has informed me that you are interested in the PDP-5 which was sold to Rutgers University.

Eventually, they will tie-in with an EAI computer. As yet, nothing is too definite as to the exact interface; however, speed is not essential since this is basically educational.

Naturally, they will continue to use both machines separately so this is not at all a hybrid application only.

I hope this information answers some of your questions. Please feel free to call me if you should have further questions.

Sincerely,

David B. Denniston

DBD:BMP

Andy – I gave original to Jones. H

LEHRSTUHL UND INSTITUT FÜR
STRAHLANTRIEBE UND
TURBOARBEITSMASCHINEN
RHEIN.-WESTF. TECHN. HOCHSCHULE AACHEN
PROF. DR.-ING. W. DETTMERING

51 AACHEN, DEN 19. Juni 1964
FERNRUF: 4222333-2334
Ru/Op

Mr. Harlan Anderson
Vice-President
Digital Equipment Corporation
146, Main Street
M A Y N A R D , Mass.
U. S. A.

Dear Mr. Anderson,

A test stand for general research purposes in the field of high efficiency compressors of the type used in jets is at present being built at my institute, which is designed to investigate and demonstrate to my students the flow in the supersonic and subsonic range. The work and tests projected require automatic interrogation at the numerous measuring points and simultaneous processing of the values supplied.

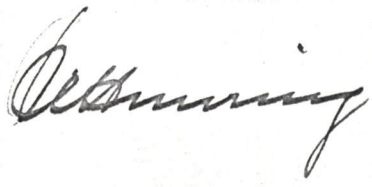
One aspect in the designing of the test stand involved, of course, the obtaining of new research results which are published by me from time to time. A much more important aspect of such equipment is however the opportunity it would afford me of giving an up-to-date and thorough training to the students, assistants, research engineers and doctorands who are entrusted to my care. This is all the more important as the manufacturing industries have repeatedly urged me to give the students a more profound training in this field. During their course of studies, our students have hitherto had little opportunity of doing any practical work on data processing equipment.

In recent months, my assistants have thoroughly discussed these problems and arrived at a practicable solution with your European representative, Dipl.-Ing. Hüwe . The PDP 7

Computer has been provided to form the core of the equipment. To this must be added the input and output options for the analogous and digital test data, the printer with perforated tape reader and puncher, and an incremental plotter.

The cost of the complete equipment would however be considerably increased by this computer and far exceed our budget. An object like this would naturally constitute for a university institute an extraordinary acquisition requiring the employment of all available financial resources. I would therefore greatly appreciate your granting my institute an appreciable allowance on the cost of your equipment. Please, accept my sincerest thanks in advance for considering my request.

Yours very truly,



George - Please take care of file for Andy

THE UNIVERSITY OF MICHIGAN
COLLEGE OF ENGINEERING
ANN ARBOR, MICHIGAN

DEPARTMENT OF ELECTRICAL ENGINEERING

June 22, 1964

Mr. Harlan Anderson
Digital Equipment Corporation
Maynard, Massachusetts

Dear Harlan:

Please accept once again my thanks for your very generous loan of the DEC equipment which you made available for our two-week summer course. We had 80 students this year in our introductory digital computer engineering course, and we broke them up into five groups of 16 per day. We further subdivided these into groups of four each of which then had an opportunity to construct a number of simple experiments with the equipment. The equipment worked beautifully, the students learned a lot, and I am sure they all took away a good picture of DEC equipment.

I am arranging to ship the equipment back to you at the beginning of next week. I should note that the shipping document which came with the equipment indicated that three pulse generators and ten diode nors were being sent, but that we actually received four pulse generators and nine diode nors.

Sincerely yours,

Norman R. Scott/mkm

Norman R. Scott
Professor, Electrical Engineering

NRS:mkm

Appoint.
1:30 Thur July 2

No action required H.E.A.

5 Highwood Road
Manchester, Mass.

June 24, 1964

Digital Equipment Corp.
Main Street
Maynard, Mass.

Attn: Mr. Harlan E. Anderson, Vice. Pres.

Dear Mr. Anderson:

As you are a key executive in a business similar to that which I am about to approach, I would appreciate an opportunity to talk with you in order to obtain your advice and criticism on my approach to the market as I seek a new career position. I am under no illusion that there would be a position for me in your organization.

I have been with ITT Data and Information Systems Division for the past two years, however, due to the curtailment of Government contracts with ITT, my services have been terminated. I am, therefor, investigating the opportunities that might be available for a person of my background and experience. Your advice would be very helpful to me in this matter.

I will call you within the next few days in order to set a time at which we might get together. In the mean time, I am forwarding herewith a copy of my resume for your consideration.

Sincerely yours,

John V. Meigs

John V. Meigs

JOHN V. MEIGS
5 Highwood Road
Manchester, Mass.
Tel: 617-526-4443

OBJECTIVE: Procurement Manager whose abilities including management, sales persuasion, planning and organizing, communications, coordination and human relations, would contribute to high level effective results.

QUALIFICATIONS: 16 years experience in industry including sales, Regional Office management, establishing records systems and internal operating procedures, coordinating interdepartmental activities, report writing, personnel selection, training and evaluation, purchasing and vendor liaison and evaluation.

SOME RELATED ACCOMPLISHMENTS

MANAGEMENT - SUPERVISION: Successfully established a field office to implement a new production control technique.

Received commendation for effectively directing logistical activities of technical personnel at sixteen field locations.

SALES PERSUASION: Improved production schedules and techniques by arranging and conducting meetings with vendor management.

Frequently averted payment of penalty clauses by persuading vendors to deliver on time.

PLANNING - ORGANIZING: Organized and developed operational plans for a newly established field office.

Developed procedures which were used internationally to control spare parts and test equipment.

COMMUNICATIONS: Increased purchasing effectiveness and size of market through accurate vendor evaluation reports.

Wrote Material Control Manual used for spare parts and test equipment at seventy field locations.

COORDINATION: Coordinated quality control requirements for field production effort with quality control manager.

Coordinated the flow of Government furnished equipment into a prime contractor's facility.

UMAN RELATIONS:	Developed an efficient organization by hiring, training and directing subordinates.
	Directed activities of twenty-six technical and administrative employees at sixteen field locations.
EXPERIENCE:	MANAGER - Logistic Activities - ITT
1962 to Present 1964	Wrote material control procedure and implemented it in the field through direction of a supply activity and field personnel at sixteen locations. Provided technical guidance to Regional Manager and liaison with the Air Force and Sub-contractors. Purchased technical materiel. Coordinated activities with quality control, material control and property control departments.
	MANAGER - Area Material Procurement Office - The Martin Co.
1956 to 1962	Directed field employees in administering contracts, monitering production, evaluating suppliers and strengthening company-supplier relations. Selected and trained personnel. Established operating procedures and records systems. Determined requirements for technical assistance. Coordinated quality control schedules.
	ASST. MANAGER - Production Section - U.S.Army Ordnance
1950 to 1952	Supervised the preparation of production and modification on schedules. Assisted the contractor in solving scheduling problems. Prepared production progress reports. Provided liaison with Government agencies. Coordinated activities with quality control department.
	SALESMAN - Industrial Hardware Firms - Philadelphia, Pa.
1948 to 1950	Sold industrial hardware and mill supplies to manufacturing firms and public institutions.
EDUCATION:	BS/BA equivalent through studies at Maryville College, Wharton School (U. of Penna.), U. of Mass. Evening School, company sponsored courses and personal study.
PERSONAL:	Married - 2 Children, Age - 48, Health - Excellent
	Major, USAR Retired Lions Club President Hold Top Secret Clearance

electronic memories inc. 12621 CHADRON AVENUE • HAWTHORNE, CALIFORNIA • 772-5201

June 26, 1964

To Whom It May Concern:

Electronic Memories, Inc. is exploring the possibilities of becoming a major supplier of mass magnetic core memories--stacks only or complete systems--to manufacturers of data processing and computing equipment.

We have asked Dr. Louis Fein--the bearer of this letter--to help us determine such things as the size, the price, the organization, the reliability, the interface specifications and the delivery schedules that buyers of such mass memories would require.

I would appreciate your discussing with Dr. Fein your organization's possible requirements and specifications for mass memories and for which you might consider EMI as a supplier.

Sincerely yours,

Trude C. Taylor
President

TCT:lbk

Harlan Anderson

June 24, 1964

Professor Dr.-Ing. W. Dettmering
Rhein.-Westf. Techn. Hochschule Aachen
Aachen, Germany

Dear Dr. Dettmering:

We are very happy to hear of your interest in the DEC PDP-7 computer, and I hope that we will have the opportunity of providing this very modern and flexible equipment for your research and teaching uses. The management at DEC has reviewed your request for an educational discount on this equipment and we have agreed to grant a 20% discount on the list price. This 20% discount will apply to the standard PDP-7 system as well as to additional core memory modules, Analog to Digital Equipment, and most input-output options. The discount will not apply to the Incremental Plotter and Control, Card Reader and Control, Card Punch and Control, Automatic Line Printer and Control, or Magnetic Tape Transports Types 50 and 570. I know that Mr. Huewe is in close contact with you and that you will be able to work out the technical specifications and final quotation for the desired system with him. If there is any further information which you would like from the home office here in Maynard, please write to me and I will be glad to help in any way possible.

Sincerely yours,

DIGITAL EQUIPMENT CORPORATION

Jonathan Fadiman
Manager, International Marketing

JFinlz

cc: Guenter Huewe, Manager, Munich Office
Harlan Anderson, Vice President, DEC